

HAWKER HUNTER

in action



Aircraft Number 121
squadron/signal publications



Introduction

There is currently a trend toward designing multi-role aircraft that can carry out a number of different missions and roles. This trend is mainly due to the fact that most countries cannot afford the research and development costs associated with designing separate aircraft for each mission. In the years immediately following the Second World War this was not the case. Most countries designed aircraft to meet specific missions and roles. Multi-role jet aircraft, with few exceptions, did not really exist until the advent of the Hawker Hunter.

The Hunter can be classed as the world's first multi-role jet combat aircraft. It was used as an air superiority fighter, ground attack aircraft, photo reconnaissance aircraft and trainer. The cost of producing an aircraft today that could fill these same roles, with the longevity of the Hunter, would be considerable and for most countries such a project would be cost prohibitive.

During 1945, many of the aircraft in front line RAF service were past their prime and in desperate need of replacement to meet a new threat, the Soviet Union and the WAR-SAW Pact. By 1948, Britain had introduced two jet fighters into service, the Gloster Meteor and the deHavilland Vampire. Both were good aircraft in their day, but that day had been three to four years earlier. This was a period of rapid advancement in military jet aviation. In the United States, the USAF was developing new types like the F-84 and F-86 and the Soviet Union was putting the MiG-15 into service. The MiG-15 was powered by an engine based upon the British Nene which has been sold to the Soviets with British government approval.

Faced with these developments, the RAF sought replacements for the Vampire and Meteor. Two new designs were put forward as possible contenders: one from Supermarine (the Swift) and one from Hawker (the P.1067). As an air superiority fighter the Swift was destined to be nothing short of a disaster. It ended up as a reconnaissance fighter, equipping only two squadrons. This left only one design available to fill the gap, the Hawker P.1067.

The P.1067 would be required to replace the Vampire, Meteor, Tempest and Hornet in RAF service. The original design (P.1067/1) was to be powered by a 6,500 lbst Rolls-Royce Avon R.A.5 turbojet engine. It was to be armed with four 20MM Hispano cannons, two mounted in the wing roots and two in the lower forward fuselage. The design called for a performance of 0.90 Mach and originally had a large circular air intake in the nose, similar to the F-84 and MiG-15. A series of wind tunnel models were produced and these revealed that various modifications were needed including lowering the horizontal stabilizer, increased wing sweep back and a drastically altered air intakes. Instead of one large center intake at the front of the aircraft, two smaller air intakes were installed in the wing roots, similar in style to the successful Hawker Sea Hawk naval fighter. This final design was designated the P.1067/5 and would later evolve into the Hunter.

The P.1067/5 also changed power plants, with the 7,500 lbst Rolls-Royce Avon R.A.7 replacing the earlier R.A.5 engine. The armament was revised with the four 20MM Hispano cannons being replaced by four 30MM Aden cannons mounted in a detachable pack carried under the forward fuselage. Toward the end of 1949, as the final shape of the Hunter was being finalized, an alternate power plant was offered to Hawker. This power plant was the 8,000 lbst Armstrong Siddeley Sapphire. In order to test both engines it was decided to install a Sapphire in the third prototype, WB202, and use the Avon power plant in the first two prototypes, WB188 and WB195.

The first Hunter jigs were put into place by the end of 1949 and construction of the first prototype was begun. By March of 1950, the first aircraft was nearly ready for flight and the Ministry of Supply issued a production contract for 198 aircraft at a cost of some 172,000 Pounds, a bold move considering that the first prototype (WB188) would not actually fly until 20 July.

On the morning of 20 July the first Hunter prototype lifted off from Boscombe Down. WB188 had been painted overall Pale Green with British roundels on the wings and fuselage and a standard RAF fin flash on the fin. The test pilot for the flight was Squadron Leader Neville Duke. Duke took the Hunter up to an altitude of some 32,000 feet and carried out a series of basic maneuvers to confirm the aircraft's handling characteristics. Then he descended to 10,000 feet to find out how the aircraft stalled with both the undercarriage raised and lowered and at various flap settings. On landing, Duke reported that the aircraft handled perfectly. Only one slight problem was encountered, the project engineers thought that fuel consumption had seemed rather high. This was later found to have been caused by a slight leak in the fuselage fuel tank.

WB188 was tested throughout August and into September. During September, the prototype made its public debut at the SBAC show at Farnborough where Duke put on a faultless flying display. Duke continued to test fly WB188 until October when it was grounded to allow for the installation of a production Avon engine. Testing resumed during April and continued until the second aircraft was ready to fly.

The second prototype, WB195, was configured much closer to production standard with full armament, a radar ranging gun sight and a production Avon R.A.7 engine. This aircraft suffered from slight vibration at high subsonic speeds and it took longer than anticipated to decelerate. In order to counter these problems the aircraft was fitted with a small airbrake under the lower rear fuselage. On 24 June 1952, the prototype went supersonic for the first time during a shallow dive from 30,000 feet. The pilot reported that the transition to supersonic flight was made without difficulty.

The SBAC show was held every year with only British aircraft on display. Hawker intended for Duke to demonstrate the second Hunter prototype (WB195), but his display

The wooden mock-up for the Hawker P.1067 prototype was under construction in the workshops of Hawker's Kingston factory during 1949. Originally the aircraft was to have a high T style tail unit. (BAe)



was overshadowed by a tragic accident. On 6 September, one of the public show days, the prototype deHavilland DH-110, flown by John Derry and Anthony Richards, turned in toward the crowd line and broke up in mid-air. A great deal of wreckage, including an engine, plunged into the crowd killing thirty people and injuring sixty-three. At the time of the accident, Duke was in the cockpit of WB195 at the end of the runway. In a display of great professionalism, Duke took off and completed a very polished display which must have required extra effort after just seeing one of his closest friends, John Derry, killed.

During October of 1951, a new government came to power in Great Britain under the leadership of Winston Churchill. With British forces making up part of the United Nations effort in Korea, the new British government decided to embark on a series of "Super Priority" projects in response to the war in Asia.

At the start of the Korean War the UN forces had total air superiority but this ended with the introduction of a new fighter by the Communist forces, the MiG-15. The UN jet fighter force of F-80s, F-84s and Meteors were totally outclassed by the swept winged MiG-15. The MiG would retain this superiority until the introduction of the F-86 Sabre. Under the "Super Priority" project, five aircraft projects were picked for accelerated development.

Each aircraft type was felt to effectively counter the quickly developing threat from the Soviet Union and her allies. The five aircraft were the English Electric Canberra bomber, the Fairey Gannet anti-submarine aircraft, the Hawker Sea Hawk naval fighter, the Supermarine Swift reconnaissance-fighter and the Hawker Hunter. The "Super Priority" system was designed to bypass the usual slowness of the British bureaucracy.

The mock-up was later modified to reflect final design changes including lowering of the horizontal stabilizers to a position low on the vertical stabilizer. The small object at the tip of the nose was a mock-up of the ranging radar. (BAe)



The third and last Hunter prototype, WB202, made its first flight on 30 November 1952, powered by the 8,000 lbst Sapphire engine. As well as testing the suitability of the Sapphire engine, the aircraft was also to be used for a number of weapons trials.

A number of problems had been encountered with the empty shell casings causing damage to aircraft when ejected at high speeds. This had first been discovered when testing the Aden cannon in a Beaufighter testbed. When firing trials were conducted with WB202 in both the air-to-air and air-to-ground roles the fears that ejected shell cases would damage the airframe were proven to be unfounded. Further development of the airbrake was also carried out with WB202 with a final decision being made to use one large airbrake instead of two smaller ones. Later, WB202 would be used to test the mounting of Firestreak air-to-air missiles on the Hunter, although this project never reached operational status.

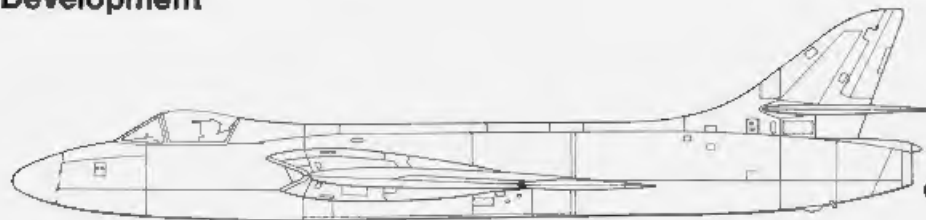
A month before WB202 took to the air, work had started at the Kingston factory on an advanced version of the aircraft. This new design, designated the P.1083, was to be based on WB188 and featured improved performance by fitting a 10,500 lbst Rolls Royce Avon R.A.19 with re-heat (afterburning) and altering the wing sweep angle. WB188 was to serve as the prototype and it was modified with twin clamshell airbrakes on either side of the rear fuselage. A number of other modifications were made to the tail area to allow for the use of the re-heated engine. Another aircraft, WN470, was also slated for modification, but with the end of the Korean War, the P.1083 program was terminated, WN470 was scrapped and WB188 was used for other test roles.

By early 1953 the P.1067 was ordered into production under the designation Hunter F.1 and on 16 May 1953 the first production aircraft, WT555, made its first flight from Dunsfold (although it would be another year before the first types would begin to reach RAF squadrons).

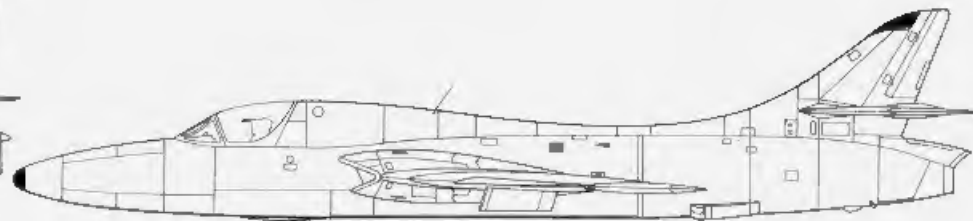
The first P.1067/5 prototype (WB188) on an early test flight with Hawker test pilot Neville Duke at the controls. The aircraft was in an overall Pale Green scheme with RAF roundels on the fuselage and wings. (RAF Museum)



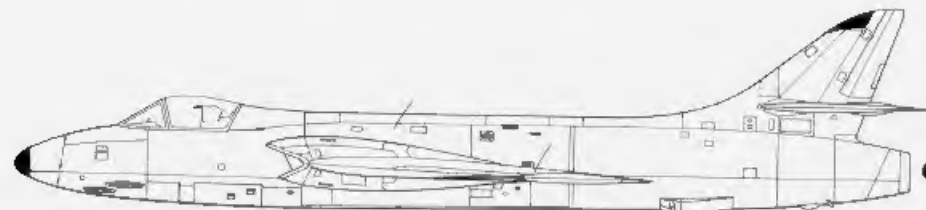
Development



Hunter Prototype



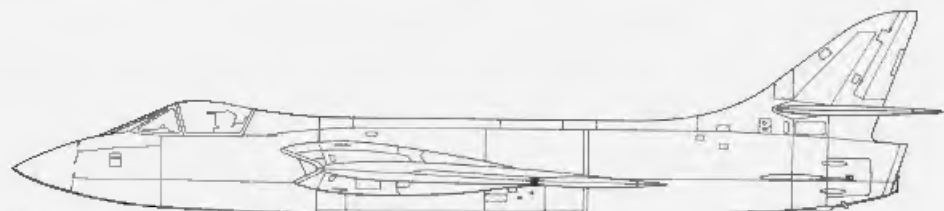
Hunter T.7



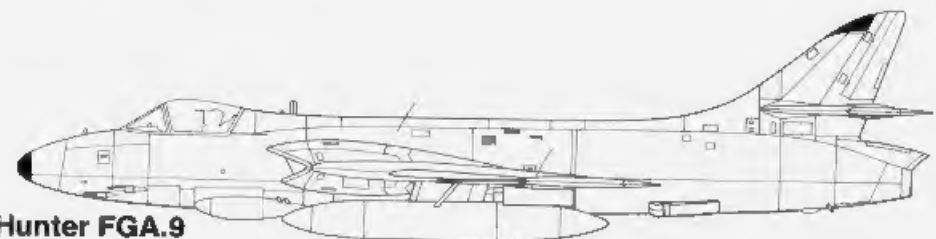
Hunter F.1/F.2



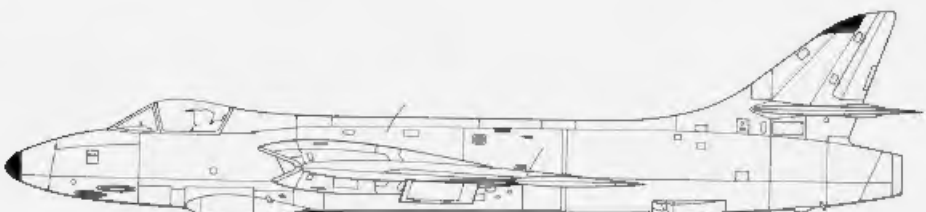
Hunter T.8



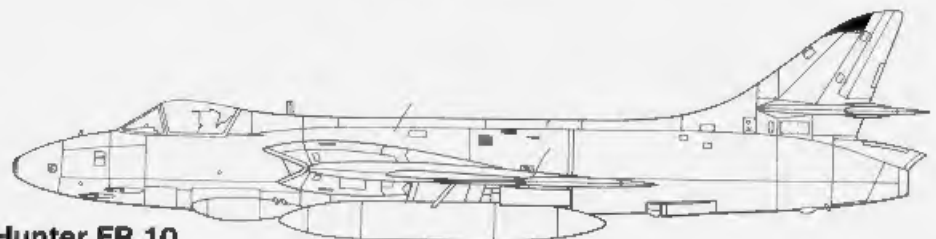
Hunter F.3



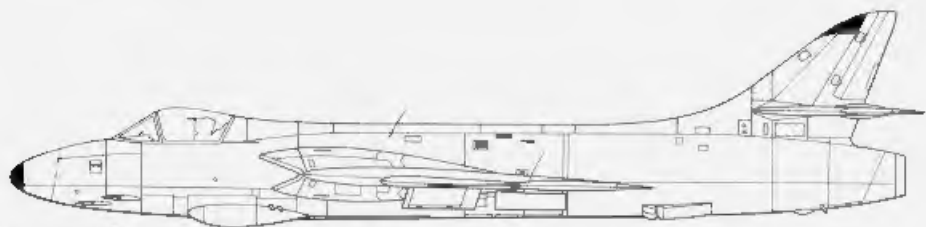
Hunter FGA.9



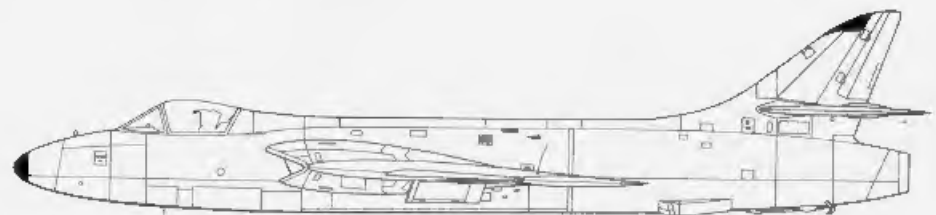
Hunter F.4/F.5



Hunter FR.10



Hunter F.6



Hunter GA.11

Hunter F.1/F.2

Production of the first Hunter fighters was undertaken by Hawker at its Kingston facility (F.1s) and by Armstrong-Whitworth at Coventry. The only difference between the Hunter F.1 and F.2 was in the power plant. Hunter F.1s were powered by a Rolls-Royce Avon engine while the F.2 was powered by the Armstrong Sapphire engine. The first twenty aircraft off the production line were designated as development aircraft and were used to conduct service trials. These trials uncovered a number of problems with the early Hunter.

The Hunter F.1 and F.2 differed very little from the last prototype. One of the problems encountered was that the original aircraft used the flaps to act as airbrakes. In service trials this was found to cause a high degree of nose pitch-down. To overcome this problem, a number of different air brake designs were tested on one of the early production aircraft. Finally, a simple and effective one piece under fuselage airbrake was approved and this was installed on the twelfth Hunter F.1 and all later production aircraft.

By the middle of 1954, production Hunters were being issued to RAF Fighter Command units. The Central Fighter Establishment (CFE) received a number of F.1s just in time to take part in a series of annual air defense exercises. Operating from West Raynham four Hunter F.1s flew a number of sorties against the "enemy" forces. This exercise revealed both the potential and some of the problems associated with the new fighter. On the plus side, the aircraft handled well and on one particular occasion Hunters intercepted a high altitude Canberra from above (most Canberra interceptions usually took place from below). One of the problems centered around the unpredictability of the British climate. At the end of each day's flying, the aircraft were left on outdoor hardstands, ready for operations the next morning. Due to the dampness and night cooling, the aircraft suffered from chronic condensation problems which caused the radar and radio to become inoperative, items that would have been vital in the event of real hostilities.

While these exercises were taking place, No 43 Squadron, the Fighting Cocks, was designated to become Fighter Command's first operational Hunter unit. The first F.1 deliveries took place during July of 1954 and by September the squadron was up to full strength. After a period of intensive training, operational flights began during November.

The Hunter F.1 was plagued by a lack of endurance. This was driven home when eight CFE aircraft, returning to West Raynham, found the base closed due to weather. The pilots were forced to divert to Marham (10 miles away) and, although the aircraft had been airborne for just forty-nine minutes, six ran out of fuel (pilots ejected), while the other two made wheels up landings next to Marham runway.

The Hunter F.1s of No 43 Squadron at Leuchars in Scotland were having an equally rough time. There were problems with firing the guns at altitude. Whenever the cannons were fired, they caused interference with the air flow into the air intakes (over pressure) which led to engine surging and flame out.

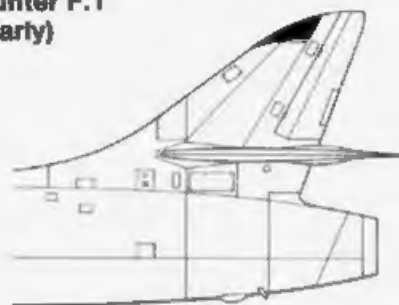
Even with its problems, Hunter F.1s continued to be brought into service, with F.1s replacing the Meteors of No 222 Squadron (at Leuchars), No 54 Squadron (at Odiham) and finally with No 247 Squadron (also at Odiham). A number of specialized establishments such as the Empire Test Pilots School also received the F.1, as did two Operational Conversion Units (OCUs), No 229 at Chivenor and No 233 at Penbrey.

The Hunter F.2, powered by the Sapphire engine, entered service with No 257 Squadron at Wattisham and service pilots quickly found that the Hunter F.2 did not have the engine surge problems of the F.1. A second squadron, No 263 Squadron was formed with the F.2 and of the two variants, squadron pilots definitely showed a preference for the Hunter F.2.

A total of 139 F.1 were built along with fourth-five F.2s. Of these, thirty-seven F.1s and five F.2s were lost in accidents. By mid-1958 all F.1s and F.2 had been retired in favor of later Hunter variants.

Air Brake

Hunter F.1
(Early)



Hunter F.1
(Late)



This Hunter F.1 (WT638/G) was one of the first F.1s to be delivered to the RAF. The aircraft served with No 233 Operational Conversion Unit (OCU) where it was used to convert RAF fighter pilots to the Hunter. (MAP)



Hunter F.3, World Speed Record Aircraft

During 1953, Hawker decided that an attempt should be made to gain the Absolute Air Speed Record for England. At that time, the record was held by the North American F-86D Sabre. As a result of this decision, the first prototype Hunter (WB188) was chosen for modification as a record attempt aircraft.

The engine was replaced by a 7,130 lbst Rolls-Royce Avon modified with re-heat (afterburning) that raised the total power output to 9,600 lbst. Other modifications to the aircraft included replacing the underfuselage airbrake with clamshell type airbrakes on either side of the rear fuselage and installing a pointed nose cone. By late August of 1953 WB188 was ready for testing and the aircraft was moved to Tangmere in Sussex, where it was painted in an overall high gloss Red scheme.

For the record attempt the aircraft was to be piloted by Hawker test pilot Neville Duke. The record flight was scheduled for mid-September and on 7 September Duke took the aircraft up for a test flight on the three kilometer course. The speed record set by the F-86D was 715.75 mph and Duke flew the same course at an average speed of 727.63 mph during the test flight. This was later converted to Mach 0.92 after allowances for weather conditions.

On 19 September, Duke set a record for the 100 kilometer course of 709.2 mph, although this record lasted only a short time. Supermarine decided to undertake a record attempt and took a Swift to Libya where it set a new record of 735.7 mph (this record flight was aided by the much higher temperatures in North Africa).

WB188 was used for a period as a ground instructional airframe, then it became a gate guard at RAF Melksham. The aircraft was later moved to RAF St Athan in Wales where it was restored to the same condition it was in for the record attempt. It now resides at RAF Cosford where it is on public display. For the attempt the aircraft was given the designation Hunter F.3, the only Hunter to carry this designation.

The F.3 (WB188) served as a gate guard for a period before being completely restored. The aircraft is now on display at the Aerospace Museum at RAF Cosford in the same condition as when Neville Duke made the record attempt. (Author)



The first prototype Hunter was later modified into the sole Hunter F.3 prototype for an attempt on the World Air Speed Record. The aircraft was modified with a pointed nose and painted with a high gloss finish to reduce drag. (Author)

The Hunter F.3 prototype featured modified airbrakes mounted on the fuselage sides, which replaced the single place ventral airbrake normally carried on the fuselage underside. (Author)



Hunter F.4/F.5

Although the Hunter had suffered at the hands of the "Super Priority" project, being pushed too fast through the prototype stage, development work on the aircraft continued. Both Hawker and Rolls Royce worked on ways to solve the aircraft's problems and by early 1955 this work was beginning to show results.

To solve the engine surge problem, Rolls-Royce developed two improved Avon engines, the R.A. 14 and 21 and it was decided to use the R.A. 14 (Avon 115) in the next Hunter variant. To cure the endurance problem, Hawker modified the F.1 with additional fuel tanks being installed in the wing leading edges. This increased internal fuel from 337 gallons (F.1) to 414 gallons. Additionally, the wings were modified with external pylons mounted just outboard of the main landing gear wells. These pylons could carry 100 gallon external fuel tanks or bombs. These modifications were introduced on both the Hawker and Armstrong-Whitworth production lines, with the modified aircraft being designated the Hunter F.4 (Hawker) and Hunter F.5 (Armstrong-Whitworth), the two aircraft differing only in the power plant installed.

Although ejected shell casings were found to be heavy enough to fall away from the aircraft without striking the underside of the fuselage, it was found that the metal ammunition belt links were causing damage to the underside of the fuselage and air-brake. As a result it was decided to collect the shell links in two external blisters mounted under the fuselage just to the rear of the guns. These blisters were later retrofitted to most early production Hunter F.4s and F.5s.

The Hunter F.5 was the first Hunter variant to see action. During July of 1956, Egypt took control of the Suez Canal and nationalized the holdings of the French/British Suez Canal Company. To restore international control over the Canal, the British and French planned a military operation (with Israel) to seize control of the canal zone under the code name Operation MUSKATEER.

At the time the RAF had six Hunter F.5 squadrons in service and it was decided that aircraft from Nos 1 and 34 Squadrons would deploy to Cyprus. The aircraft were to provide base defense and top cover for Valiants, Canberras and Royal Navy strike aircraft operating from three carriers. The British were not going to underestimate the Egyptians who had Meteors, MiG-15s, and MiG-17s.

At first the Hunters, carrying Black and Yellow identification stripes, were used to fly cover over the bombing raids against Egyptian airfields, but after no real air-to-air threat was forthcoming from the Egyptians it was decided that the Hunters would be better suited to base defense against the possibility of hit and run raids by Egyptian Il-28 bombers. In the event, there were no air-to-air encounters and the Hunters returned to their bases in the UK.

The Hunter F.4 was selected to equip squadrons serving in Germany with the 2nd Tactical Air Force. During April of 1955, No 98 Squadron formed with Hunters at Jever followed shortly by another Jever unit, No 118 Squadron. No 14 Squadron formed the following month, as did No 247 which traded in Hunter F.1s for the new variant. By the end of the year no less than ten squadrons were operating Hunters, six in Germany and four in the UK.

Exports

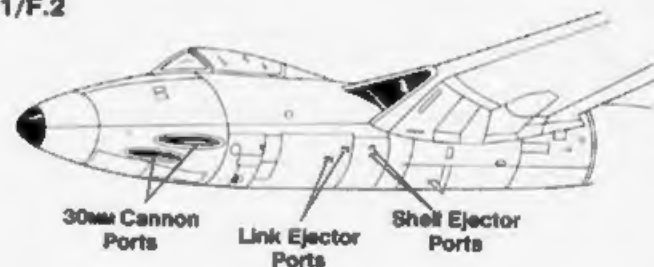
During 1954 representatives from Sweden and the Netherlands visited the UK to evaluate the Hunter F.4. The first export contract was with Sweden which ordered 120



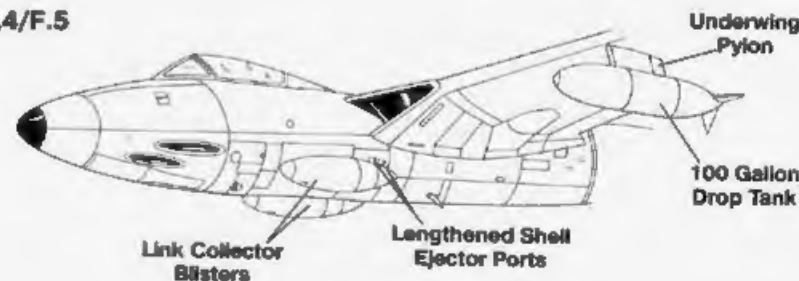
A Hunter F.4 (XF324/D) of No 92 Squadron on display during 1956. The aircraft has the link collector blisters first introduced on late production Hunter F.4s. This same aircraft would later serve with No 222 Squadron before being retired during 1963. (MAP)

Fuselage Development

Hunter F.1/F.2



Hunter F.4/F.5





A mixed formation of Hunter F.4s of Nos 93 and 118 Squadrons. Although the Hunter F.4 was the first Hunter variant to have provision for underwing pylons, none of these aircraft are fitted with the pylons. (N.J. Waters III)

F.4s (export designation F.50) during June of 1954. The following month the Danish government ordered thirty F.4s under the export designator F.51.



This Hunter F.4 (WP104) carried the markings of No 56 Squadron for its entire career. It entered service in 1955 and was finally withdrawn during 1963 when the squadron converted to Lightnings. No 56 Squadron markings consisted of large Red and White checkerboards flanking the squadron's rising Phoenix badge. (Arthur Drinkall Collection)

The Swedish Air Force designated the Hunter as the J-34 and eventually, the Hunter would equip four wings of the Swedish Air Force: F.8 based at Barkarby, F.9 at Sæve, F.10 at Ängelholm and F.18 at Tullinge. During 1962, an aerobatic team, the Acro-Hunters, was formed by F.18 Wing. The Swedish aircraft had a different camouflage scheme than any other Hunters with Dark Green upper surfaces over Light Blue-Gray undersurfaces.

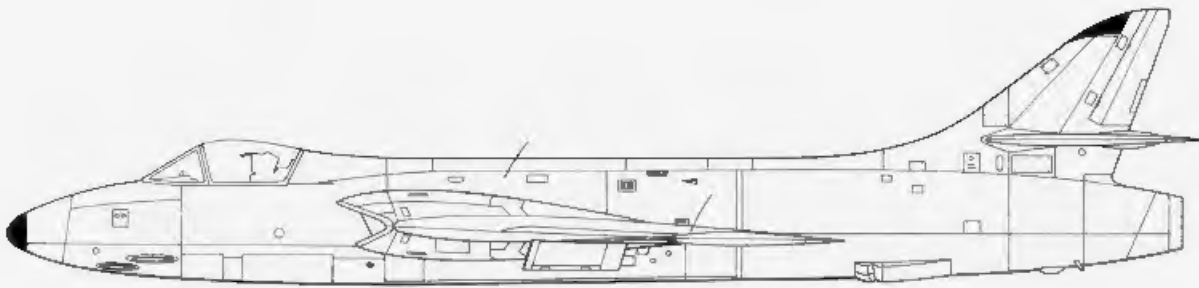
The Danish Air Force operated one squadron of Hunters. Esk. 724 flew the Hunter for nearly two decades before the survivors were retired during early 1974.

The Netherlands and Belgium opted for a license production contract where the Hunter F.4 would be built jointly in both Holland and Belgium starting in 1955. The Dutch produced some ninety-six aircraft and the Belgians built 111 aircraft (both countries retained the British Hunter F.4 designation). Both Swedish and Dutch machines were later modified to carry AIM-9 Sidewinder missiles.

The Hunter entered service with Nos 324 and 325 Squadrons, RNethAF during late 1955, followed shortly by No 327 Squadron. During 1960 the Dutch were facing a possible confrontation with Indonesia over Dutch New Guinea and twelve aircraft of No 327 Squadron were loaded aboard the carrier KAREL DOORMAN for transportation to the area as a show of strength. For a while the aircraft were based at Biak and Mokmer before the Dutch finally agreed to relinquish control of the area to Indonesia.

Belgium operated three wings of Hunter F.4s until the mid-1960s when the aircraft was replaced by the Lockheed F-104G Starfighter. No 1 Wing operated from Beauvechain, No 7 from Chievres and No 9 at Bierst. After retirement, many ex-Belgian Hunters were refurbished by Hawker before being sold to other countries.

The only other operator of the F.4/F.5 Hunter was Peru which received sixteen F.4s under the export designation F.52 during early 1956. The aircraft proved very popular with Peruvian pilots who flew the Hunter alongside North American F-86s in No 14 Squadron. They were based at Limatambo and Talara until the late 1960s when they were replaced in the fighter role by Mirage 5Ps. For a short period the Hunters were operated in the ground attack role by No 12 Squadron, replaced by Su 22 Fitters during 1976.



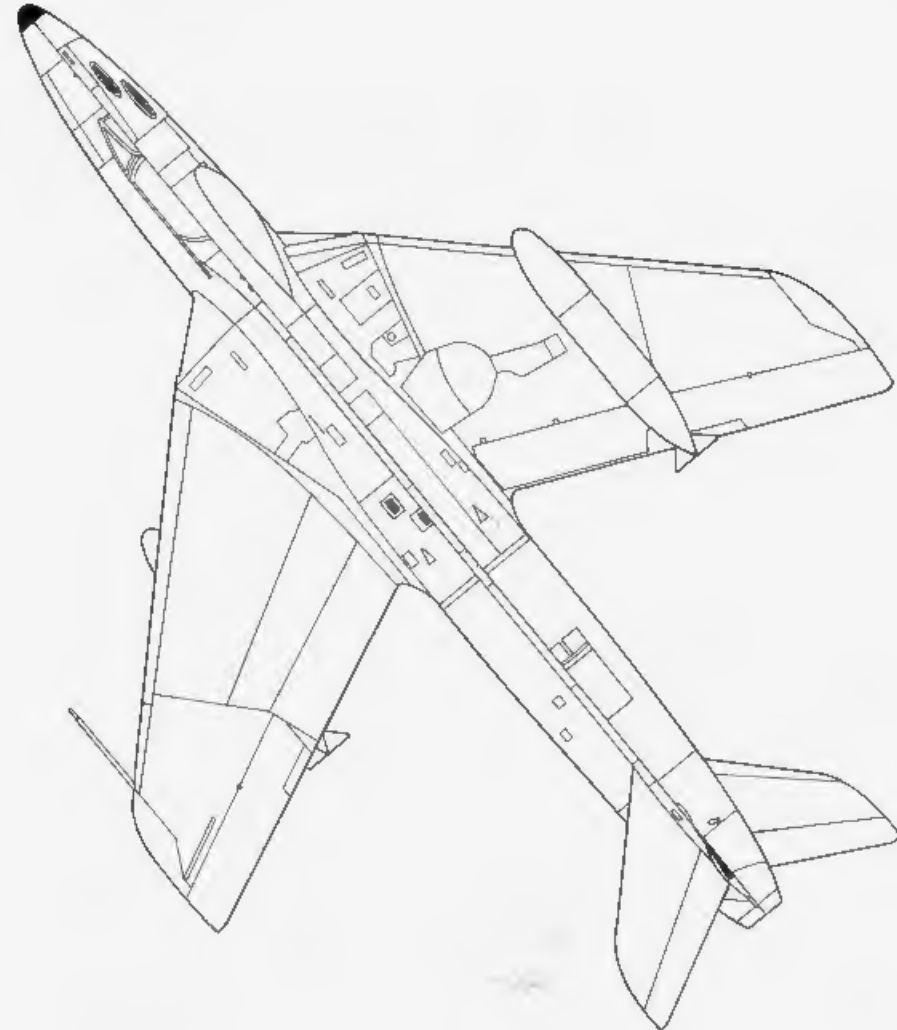
Specifications

Hawker Hunter F.4

Wingspan 33 feet 8 inches
Length 45 feet 10 ½ inches
Height 13 feet 2 inches
Empty Weight 12,760 pounds
Maximum Weight 19,700 pounds
Powerplant One 8,000 lbst Rolls Royce Avon 115

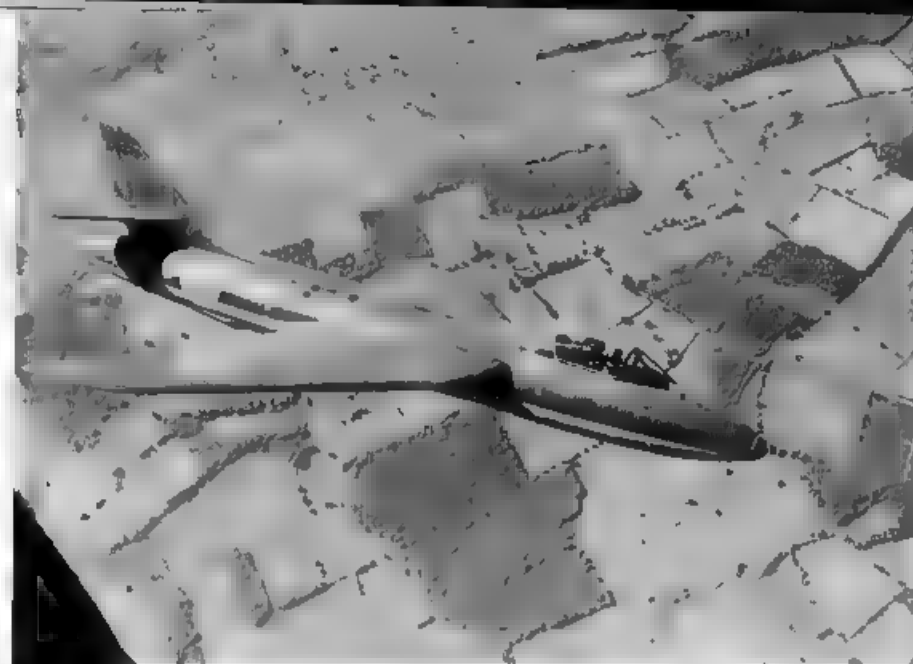
Armament Four 30mm Aden cannons and
 2,000 pounds of external ordnance.

Performance
Maximum Speed 622 mph
Service ceiling 52,000 feet
Range 1,650 miles (with tanks)
Crew One





Hunter F.4s served with No 43 Squadron during 1956, although they remained with the squadron only until the F.6 was available. This F.4 (XE706) took part in the annual RAF Battle of Britain air show during that year and later went on to serve with No 92 Squadron before being scrapped in 1962. (Arthur Drinkell Collection)

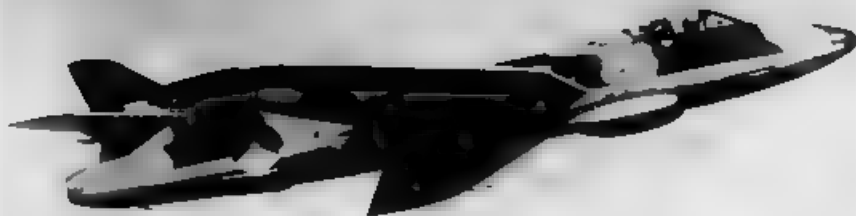


This Hunter F.50 (F.4) was the first aircraft delivered to the Swedish Air Force. The Hunter F.50 was an early production F.4 and did not have the link collector blisters installed under the fuselage. (BAe)

This modified Hunter F.4 (XF969) served as a frontline fighter with No 3 Squadron before being transferred to the Empire Test Pilots School where the test probe was added. During 1971 Hawker repurchased the aircraft, converted it to the reconnaissance role and sold it to Singapore. (Arthur Drinkell Collection)

Swedish Hunter F.50s carried a camouflage of Dark Green uppersurfaces over light Blue-gray undersurfaces. These are the only Hunter variants to carry a single color uppersurface camouflage. (BAe)





A Hunter F.4 of the Royal Netherlands Air Force. Dutch Hunters normally carried the aircraft serial number in White on the nose. This aircraft carries non-standard underwing roundels and a fin flash. Normally, roundels were carried on the upper port wing and lower starboard wing only. (RNethAF)



The Royal Danish Air Force also operated the Hunter F.4 under the designation Hunter F.51. This Hunter F.51 (E-401) was assigned to Esk-724 which flew the Hunter until 1974. The fin flash was a representation of the Danish flag in Red and White. (MAP)

This Hunter F.4 was exported to Peru under the designation Hunter F.52. The Hunters served with No 14 Squadron alongside North American F-86 Sabers at Limatambo and Talara until they were later transferred to No 12 Squadron for use in the ground attack role. (Peruvian Air Force)



Hunter F.6

During 1955, Rolls-Royce completed development of an improved Avon engine, the 10,000 lbf Avon 203. It was decided to install this engine in the Hunter under the designation Hunter F.6.

The Hunter F.6 differed from the earlier variants in a number of ways. The increased power from the new engine resulted in some increase in nose pitch-up problems at altitude and to cure this, the outer wing panels were fitted with a leading edge extension. Additionally, a series of modifications, known as Mod 228, were made that included provision for mounting twelve three inch rockets under the outer wing panels or installation of a second underwing pylon. The aircraft was cleared for bombs, rocket pods or fuel tanks on either set of pylons. Gun firing at high altitude produced a tendency to pitch-down and to cure this, the guns were modified with blast deflectors being installed on the gun muzzles. At the same time the shell casing ejector chutes were lengthened.

No 19 Squadron based at Church Fenton in Yorkshire was the first to receive the F.6, followed by Nos 63, 111 and 43 Squadrons. As an interceptor with the RAF, however, the career of the Hunter F.6 was short. The aircraft entered squadron service during 1956 and served with a total of nineteen units. The F.6 was to be phased out by 1961 being replaced by the English Electric Lightning. The F.6 did serve with a number of frontline units in other nations including India, Switzerland, Iraq, Jordan, Lebanon and Saudi Arabia. Additionally, Belgium and The Netherlands changed their production lines over to the F.6 from the F.4.

Exports

India — The Indo-Pakistani Wars

In the early part of 1956 a delegation from India visited the Hawker plant to evaluate both the Hunter and the Sea Hawk. The Indians considered both the F.4 and the F.6 before deciding to purchase the later version. Just over a year later the Indian Government placed an order for 160 Hunter F.6s, under the export designation F.56. By the end of that year over thirty had been delivered to India, with the remainder being delivered by the end of 1960.

These aircraft were to serve with Nos 5 and 17 Squadrons at Peena and with Nos 7, 20 and 27 at Ambala. Indian Hunters were first used during the Indian invasion of Goa during 1961 but details of this action are very sparse. It is believed that they were used for top cover over the invading forces and as a show of strength. Additionally, it is known that IAF Hunters engaged Chinese MiG-17s along the China/India border during 1962, although details are once again sparse.

There had been long standing border disputes between India and Pakistan for many years and although there had been minor clashes nothing major happened until full scale fighting broke out during 1965.

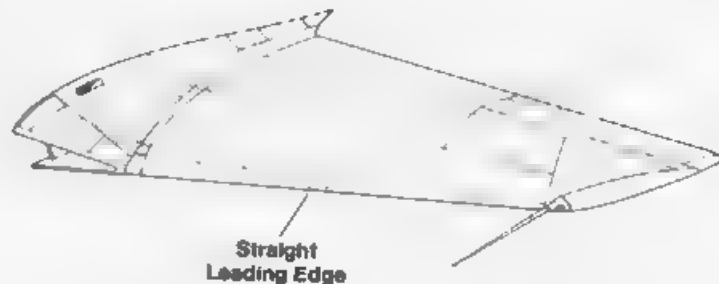
In a war that lasted just under a month, the IAF employed Hunters in both the air defense and ground attack roles with mixed results. The Pakistani Air Force operated aircraft that were both older and newer than the Hunter (F-86 Sabre and F-104 Starfighter). There appears to have been only one engagement between Hunters and Starfighters. This took place at an altitude of around 25,000 feet above Lahore, when two



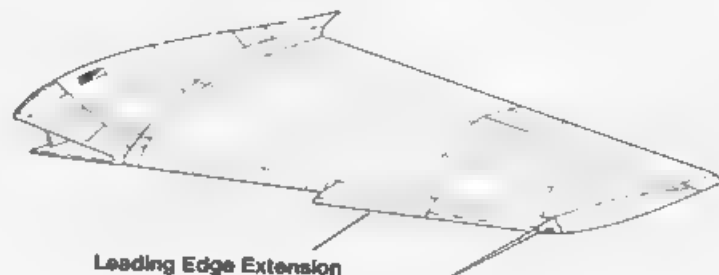
This Hunter F.6 (XF449) of No 92 Squadron carries the individual code letter S on the fin in front of the fin flash. No 92 Squadron flew F.6s from 1957 until 1963 when they converted to English Electric Lightning interceptors. (Arthur Drinkall Collection)

Wing Development

Hunter F.4



Hunter F.6



Hunters were intercepted by a pair of F-104s. One Hunter stalled and dropped out of the fight while the other out-turned the chasing F-104s and headed for home as soon as the F-104 broke off from the engagement.

In the ground attack role the Indians, in one well documented incident, lost four Hunters on a low level strike mission against the Pakistani airfield at Sargheda. The attacking Hunter flight was engaged by a single F-86, flown by the commander of one of the F-86 squadrons, who shot down all four aircraft in a matter of minutes. In other incidents it is known that Pakistani aircraft used AIM-9 Sidewinder missiles against Hunters. Throughout the 1965 war, the Indians lost nine Hunters to Sabres while shooting down six Sabres.

During 1971 war broke out again and this conflict led to the formation of the state of Bangladesh (formerly East Pakistan). Once again the Hunter was used in the ground attack role to strafe and bomb targets such as troop concentrations, supply convoys and other strategic targets.

Pakistan also had new equipment including Shenyang F-6s (Chinese built MiG-19s) and French Mirages. In the two weeks of fighting, Sabres claimed another six kills. Mirages claimed four, F-6s three and another four to ground fire. In return the Hunters shot down two Sabres and one Shenyang F-6.

The Hunter still serves in limited numbers with the IAF, and serves as the mount for the IAF aerobatic team, the Thunderbolts.

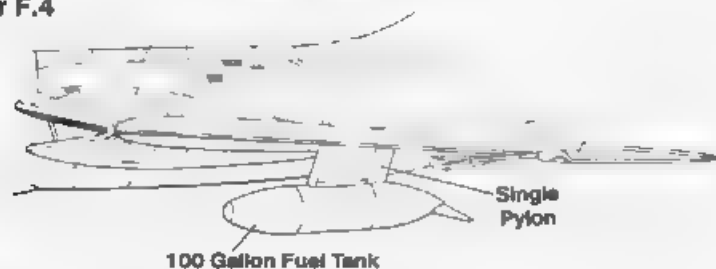
The Middle East

Since the end of the Second World War, there have been many conflicts in the Middle East between Arab nations and Israel and the Hunter played a role in a number of these conflicts.

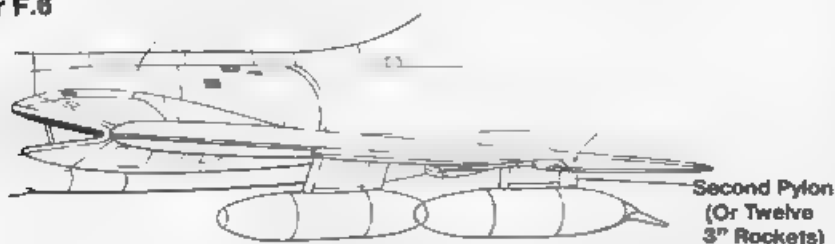
Iraqi ordered some sixteen Hunter F-6s paid for with American funding and supplied direct from RAF stocks. The first five aircraft arrived during the Spring of 1958 and

"Mod 228" Wing

Hunter F.4



Hunter F.6



This Hunter F.6 (XF387) served with a number of squadrons, including No 54 Squadron during the early 1960s. It was later updated to FGA.9 standards and was lost while serving with No 4 FTS in a mid-air collision with another Hunter. (Arthur Drinkell Collection)

formed the equipment for a new fighter squadron based at Habbaniyah Air Base. Iraqi pilots received conversion training at No 229 OCU at Chivenor. The left wing revolt in Iraq that ultimately brought Saddam Hussein to power led to an interruption in spares support. Further Hunter orders were not released until the early 1960s.

Jordan has been considered as one of the better equipped and trained armed forces in the Arab world and Jordan received their first Hunters during 1958. These aircraft were identical to RAF F-6s and retained the British designation. Jordan received a total of thirty-five fighters (although a number were to the later FGA.9 standard). Jordanian Hunters were used in action during December of 1964 and again during 1966, in these incidents No 1 Squadron Hunters claimed four IDF/AF Mirage fighters for a loss of one Hunter.

The entire strength of No 1 Squadron was deployed to Mafraq air base prior to the planned Arab offensive of 1967 when the Israelis launched a number of pre-emptive air strikes designed to cripple the Arab air forces. This attack signaled the start of the Six Day War and left all but two of the Jordanian Hunters destroyed, and these were badly damaged. After the war, the Jordanian Hunter force was rebuilt with three aircraft donated by Saudi Arabia and further aircraft were ordered from Hawkers. By 1974, the Jordanians had phased out the Hunter in favor of the Northrop F-5A.

During 1958-59 six Hunter F-6s were delivered to the Lebanese Air Force, all directly from RAF stocks. At a later date a number of FGA.9 standard aircraft were also delivered. As far as can be determined the Lebanese F-6s played very little or no part in the Six Day War, although Hunters flying from a highway airstrip took part in the Civil War supporting government troops attempting to restore order. The current status of the Hunters in the Lebanese Air Force is unknown.

Another nation to receive the Hunter fighters was Saudi Arabia. The Royal Saudi Air

Force obtained four F-6s under the designation F-60. These aircraft were part of an arms deal known as "Magic Carpet." Pilots were trained in the UK as part of the deal and the aircraft were delivered via Riyadh to No 6 Squadron at Khams Mushayt during May of 1966.

Shortly after this delivery, Saudi Arabia suffered a number of air attacks from Egyptian Il-28 bombers escorted by MiG-21s. RSAF Hunters were scrambled but due to the fact that Saudi Arabia had no air defense radar or fighter controllers, the Hunters failed to intercept the raiders. The Hunters were used to mount a number of strikes at Egyptian ground targets. During early 1967 one F-60 was lost in an accident and the remaining three aircraft were given to Jordan after the Six Day War.

Switzerland

Swiss links with the Hunter go back to 1957 when the aircraft took part in a fly off evaluation with the F-86 Sabre and the Folland Gnat. The Hunter won the evaluation and the Swiss asked to "borrow" two aircraft for a month to further evaluate the Hunter under Swiss conditions. During late 1958 the Swiss government placed an order for 100 aircraft modified with a parachute braking system. The aircraft were built to F-6 standard under the export designation F-58.

The Swiss order was delivered by April of 1960 with the aircraft being sent to equip eight squadrons (Staffels, 1, 4, 5, 7, 8, 11, 19 and 21). Over the course of their careers, Swiss Hunters have been modified to carry Sidewinder and Mavenick missiles. One one occasion a Hunter became the first Swiss AF jet fighter aircraft to carry a kill marking — another Hunter. A few years ago a number of Hunters were flying an exercise with live ammunition in a series of mock dogfights. As one Hunter passed into the sights of another, the pilot automatically pressed the firing button, forgetting he was loaded with live ammunition. The pilot of the stricken Hunter ejected safely and for a short period of time the aircraft carried a kill marking.

The Fighter Combat School operated a number of Hunter F.6s. The different flights of the school were identified by the color of the aircraft's spine and fin. This Hunter had a Yellow spine/fin while the second flight at the DFCS had Red spines/fins. (Arthur Drinkall Collection)



A Hunter F.6 (XK149) lands at RAF West Raynham. The aircraft retains the Yellow spine from its previous assignment with the Fighter Combat School, although the fin has been repainted. (Arthur Drinkall Collection)

This Hunter F.56 (BA360) was the last of some 160 Hunters fighters ordered by the Indian Air Force. The Indian Air Force flew the Hunter in two wars against their long time rival — Pakistan. (BAe)





An Indian Air Force Hunter F.56 (F.6) armed with a dual practice bomb carrier on the inboard pylon and carrying 100 gallon fuel tanks on the outboard pylon. The Hunter F.6 and its export variants were the first Hunters to feature the outboard wing pylon. (BAe)

A Hunter F.6 (401) of the Royal Iraqi Air Force carrying the alternate outer wing armament of twelve three inch rockets. The aircraft also carries dual practice bomb carriers on the inboard pylons. The Hunter carries the early type Iraqi fin flash, used prior to the left wing revolt.

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The Hunter contract for Lebanon consisted of six Hunter F.6s which were turned over to high ranking Lebanese officials at Dunsfold during 1958. These aircraft carried the Lebanese fin flash at a raked angle on the fin. (BAe)





This Hunter F.6 (ex-XE591) was withdrawn from RAF stocks, refurbished and sold to Saudi Arabia (RSAF 80-802). The aircraft was ferried out of Dunsfold during 1968 along with three other F.6s. They were replaced during 1967 by Lightnings and the Hunters were given to Jordan. (BAe)

A RNethAF F-104G Starfighter makes a simulated attack on a Hunter field as the pilots run for their Hunter F.6s. Holland operated a total of six Hunter squadrons, with the last Hunter being withdrawn from service during August of 1968. (RNethAF)



Hunter F.6s of the Royal Netherlands Air Force on the ramp at Leeuwarden, Holland. The RNethAF operated a large number of Hunters and produced the aircraft in Holland under license. Many of these aircraft were later bought by Hawker for refurbishing and resale and the F.6 in the foreground later went to Kuwait. (RNethAF)





This Hunter F.6, coded W-OV, served with the Belgian Air Force during the late 1950s. Belgium produced and operated some 144 F.6s which remained in service until replaced by Lockheed F-104Gs during the early 1960s. (MAP)



This Hunter F.58 (J-4147) of No 9 Staffel, Swiss Air Force carries two Orange painted practice bombs on the outboard wing pylon. The F.58 was basically a Hunter F.6 modified with a braking parachute. (Author)

This Swiss Hunter F.58 (J-4015) has had the Gray areas of its two tone camouflage scheme overpainted with a White water-color paint to produce a temporary winter camouflage. (Hans Prisl via Paul Hohn)



Over the years, Swiss Hunters have been upgraded and modified. One of these modifications was the addition of an extra underwing pylon inboard of the normal inboard pylon. (Mauro Ottigalli)





J-4007 was one of the first Hunter F.58s delivered to the Swiss Air Force. The aircraft remains in service and was used as a trials aircraft for the Maverick missile modification. The aircraft was painted with a special Blue and Yellow paint scheme to mark the 75th anniversary of the Swiss Air Force. (Author)



This Hunter of No 4 Staffel carried the unit insignia on the nose. The aircraft has been modified with radar warning antennas on the nose and chaff/flare dispensers installed in the link collector blisters. (Mauro Ottogalli)

This Hunter is assigned to the Swiss aerobatic team *La Patrouille Suisse*. The team is based at Dubendorf Air Base and flies six standard Hunter F.58s modified with a smoke system for air show work. (Mauro Ottogalli)

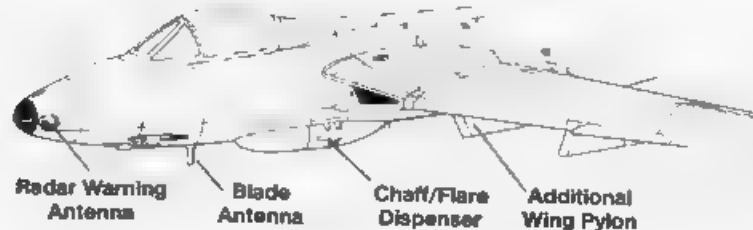


Swiss Modifications

Hunter F.6



Swiss Hunter F.58



Trainer Variants

Hunter T.7

When the Hawker Company decided to develop a two seat trainer variant of the Hunter they originally planned to use a tandem seating arrangement similar to the Gloster Meteor T.7. This arrangement, however, was not favored by high ranking RAF officials who wanted the trainer to use a side-by-side arrangement.

During early 1954, the specification for the Hunter trainer was issued to the company with an initial requirement for two prototypes. By early 1955, the mock-up was nearing completion but problems were encountered during wind tunnel testing. The original canopy design was a double bubble type which was found to cause aerodynamic problems, as a result it was rejected and replaced with a single piece smooth canopy.

The first prototype (XJ615) made its first flight on 8 June 1955 with Neville Duke at the controls. He reported that the aircraft suffered from buffeting (due to the shape of the canopy fairing) and unacceptable noise levels inside the cockpit. For a while the company tried a number of different vortex generators in an attempt to fix the problem, but it was soon realized that an entirely new rear canopy to fuselage fairing was needed.

One of the junior members of the design team, Cliff Bore, was assigned to redesign the aerodynamic shape of the upper fuselage to produce a smooth fairing from the canopy to the fuselage. A number of metal panels were formed and attached to the aircraft to help in defining the definitive shape and the aircraft was displayed at Farnborough during 1955 in this configuration. The final fairing shape was finally decided on during February of 1956.

It was also decided to incorporate a braking parachute system on the trainer. The parachute was housed in a fairing on the rear fuselage just above the jet exhaust. A number of trials were carried out with a modified Hunter F.4 (W1780) to ensure that the system worked. The trials were successful and it was decided to retrofit the system to single seat aircraft as well as installing it on the trainer.

Initially, the aircraft was to carry two Aden guns in the lower fuselage; however, the RAF decided during early 1956 that the aircraft would only have one gun. As a result, it was decided to delete the port cannon. Since the trainer prototypes were based on the F.1 fighter they suffered the same engine surge problems. This was overlooked, however, since production trainers were to be based on the latest fighter variant in production, the T.6. After successfully completing its trials, the RAF ordered the aircraft into production with a contract for fifty-five aircraft under the designation Hunter T.7.

The first production T.7 made its first flight on 11 October 1957 and the first aircraft delivered to the RAF were assigned to No 229 OCU at Chivenor in Devon. As time progressed, most of the single seat Hunter squadrons received at least one T.7 for use as proficiency trainers and squadron hacks. The T.7 was used by a number of fighter training squadrons during the 1950s and 1960s including Nos 1, 54, 65, 66, 19, 43, 74 and 92. During 1960, a number of RAF stations received Hunter T.7s for use as station flight aircraft. A total of forty-five new production Hunter T.7s were built along with six additional aircraft being converted from early Hunter F.4s.

Most RAF T.7s were retired after the service introduced the BAe Hawk into training units. A small number serve at Lossiemouth where they are used as training aircraft for the Buccaneer squadrons. These aircraft have modified cockpits containing Buccaneer instruments and electronics. A few others are scattered between some of the specialized

establishments such as the Royal Aircraft Establishment and the Empire Test Pilots School where they fill a number of important training roles.

Hunter T.8

The success of the T.7 led the Royal Navy to consider the aircraft for use in training pilots for the Sea Vixen and Scimitar. At the time the Fleet Air Arm only had the Sea Fury and Vampire trainers, which were unsuited for training pilots on the much larger and faster aircraft currently in service on the Navy's carriers. Ten aircraft were diverted from the T.7 production line and delivered to the Navy under the designation Hunter T.8.

The Navy Hunter T.8 differed from the standard RAF T.7 trainer in the installation of a tail hook under the lower rear fuselage. This tail hook was not stressed for actual carrier landings, but was used for field carrier landing training. A series of arresting wires could be rigged on a section of the runway at a Naval Air Station marked out to simulate a carrier deck. By allowing the pilot to make a standard carrier approach at an airfield ashore before moving on to an actual deck landing saved time, money and greatly reduced the risk to deck crews of landing accidents.

No 736 Squadron was the first Fleet Air Arm (FAA) squadron to receive the T.8, when XL581 was delivered to Lossiemouth in Scotland during July of 1958. This was followed shortly by delivery of another T.8 to No 764 Squadron. By late January 1959, eight aircraft had been delivered from the factory. These were later joined by another seventeen aircraft, which included a number of Hunter F.4s rebuilt to T.8 standards.

During 1963 another ten Hunter F.4s were converted to T.8 standards and further modified with the addition of TACAN navigational equipment under the designation T.8C. Deliveries started during 1963 and another squadron, No 759 Squadron, was formed at Brawdy to operate the aircraft.

Three aircraft were sent to RNAS Yeavilton to be used by the Flag Officer (Flying Training), RADMP Gick. The three aircraft, XE665, XL580 and XL584 were repainted

The Hunter T.7 prototype trainer (XJ615) conducts a test flight over southern England during June of 1955. A number of different rear canopy fairings were tested before the final form was selected. (BAe)



with Glossy Dark Blue-Gray uppersurfaces over Gloss White undersurfaces with the Admiral's flag carried on the nose of the aircraft. Additionally, the roundels had a thin white surround.

Later, the entire inventory of FAA Hunters was moved south to RNAS Yeovilton. Individual squadrons were disbanded and reformed as No 899 Squadron. This was to be the FAA's training squadron in a shrinking air arm that, for a short while, had no frontline fixed wing aircraft after HMS ARK ROYAL was retired during 1978.

When the Royal Navy introduced the Sea Harrier into service, it realized that the Harrier units would require crews that were trained on jet aircraft. Rather than depending on the RAF for training, the remaining T 8s were used by No 899 Squadron to convert Royal Navy pilots to jet aircraft. Additionally, the T 8s also perform a vital training role for the ships of the Royal Navy by acting as 'enemy' strike aircraft. For this mission the aircraft carry a large light in the nose replacing the ranging radar. This light is known as a Harley light and is used to make the aircraft more visible to gun/missile tracking crews during training.

With the development of the Blue Fox radar for the Sea Harrier FRS 1, a pair of Hunter T 8s were modified to carry the radar in a modified nose radome under the designation Hunter T 8M. These aircraft (XL580 and XL602) are stock T 8s except for the addition of a Sea Harrier radome and radar.

The Fleet Requirements and Direction Unit (FRADU) also fly Hunter T 8s along with a number of other Hunter variants. The unit is manned by civilian contract pilots operating in the target role.

Trainer Exports

A large number of Hunter trainers have been exported to nations that bought single seat variants. Most export trainers are equipped with two Aden cannons mounted semi-recessed in the nose with a blister covering the ammunition box and link collector.

The Danish Air Force followed up its purchase of single seat Hunters with an order for a pair of two seat trainers under the designation T 53. These aircraft (35-271 and 35-

This early production Hunter T.7 (XF310) is overall Silver dope with Yellow trainer bands on the wings and fuselage. This aircraft was converted from a Hunter F.4 airframe and remained in service until the end of the 1970s. (BAe)

272) were delivered to Denmark at the end of 1958. They differed from the standard Hunter T 7 in that the wing lacked the leading edge extensions. The aircraft served alongside Hunter fighters in Esk 724 until they were retired during 1974.

Another early Hunter fighter customer that later ordered a two seat trainer was Peru, which ordered a single trainer under the designation T 62 during 1959. The aircraft, serialled 681, was delivered during 1960 and was still in service during the early 1980s. The T 62 incorporated a radio compass fitting on the upper fuselage just behind the canopy.

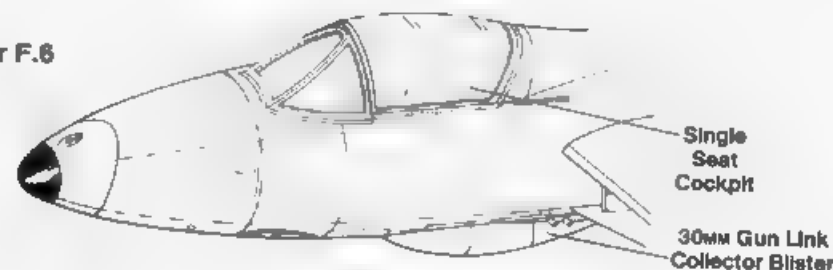
The Dutch Air Force used some twenty trainers with the first being delivered during 1955. As with the fighter variants, the Dutch modified the trainers to carry the AIM-9 Sidewinder air-to-air missile (although only half the trainer inventory was actually modified). One aircraft was given a civil registration (PH-NLH) and was used by the Dutch Flight Research Establishment in similar roles as the British Institute for Aviation Medicine. The aircraft was painted in an Orange, White and Blue scheme.

India received twenty-six two seat Hunters under the designation T 66. The Indian government requested that the aircraft be delivered as soon as possible, which put Hawker under some pressure since they were trying to satisfy the demands of a number of various services. By using parts from a number of other aircraft, the first aircraft was delivered to No 17 Squadron at Peena, during 1959 with the remaining aircraft being delivered by the end of 1960. The IAF ordered an additional batch of Hunters following the 1971 war with Pakistan, and this order included five T 66Es. This order was completed by the end of 1973. The T 66 differed from the RAF T 7 in that they were powered by Avon 203 series engines.

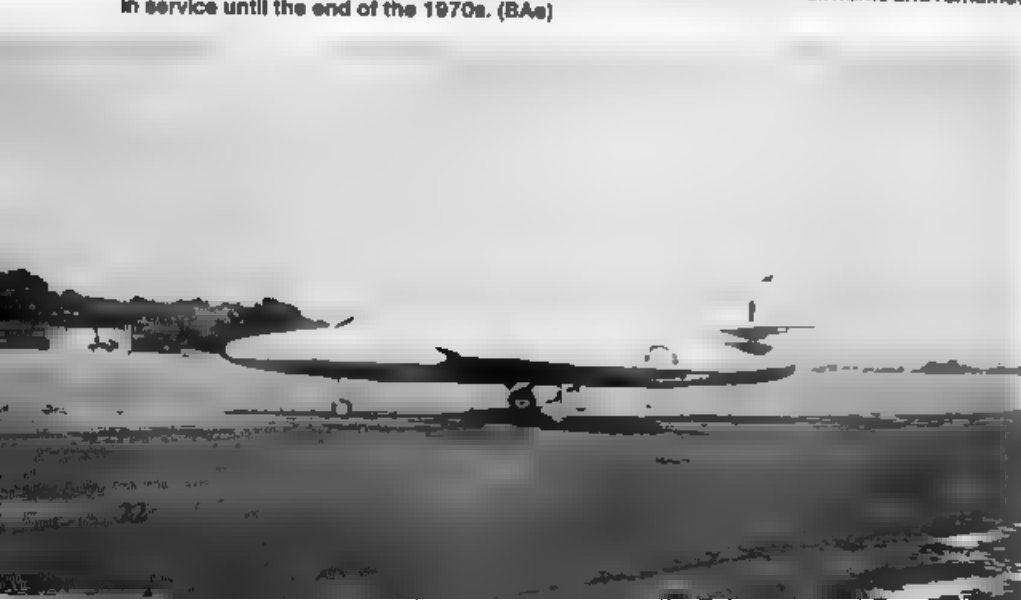
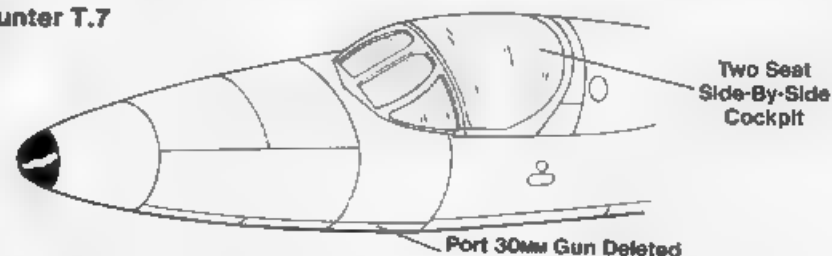
Jordan bought four trainers during 1960 under the designation T 66B. One of these crashed during 1965 and the remaining aircraft were later donated to Oman. Another Middle East nation that received Hunter trainers was Lebanon, which operated three T 66Cs during the mid-1960s (many of the differences in the various trainer marks was in such items as radios and avionics. Receiving countries also had varying requirements for underwing tanks and/or weapons carrying capabilities).

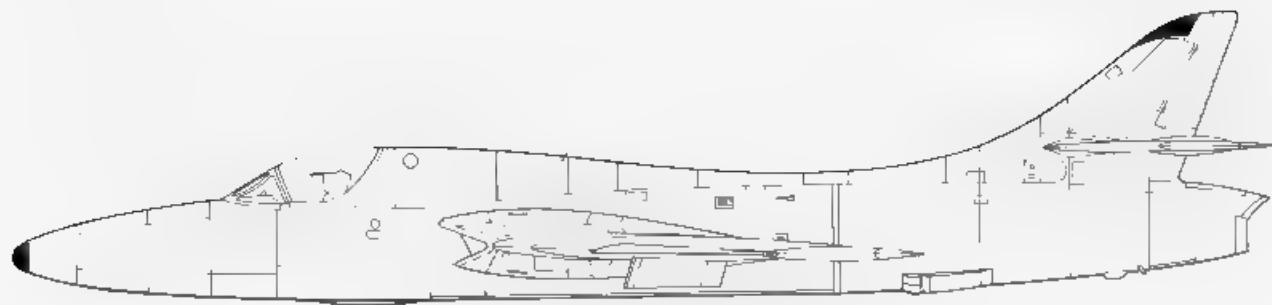
Cockpit Development

Hunter F.6



Hunter T.7





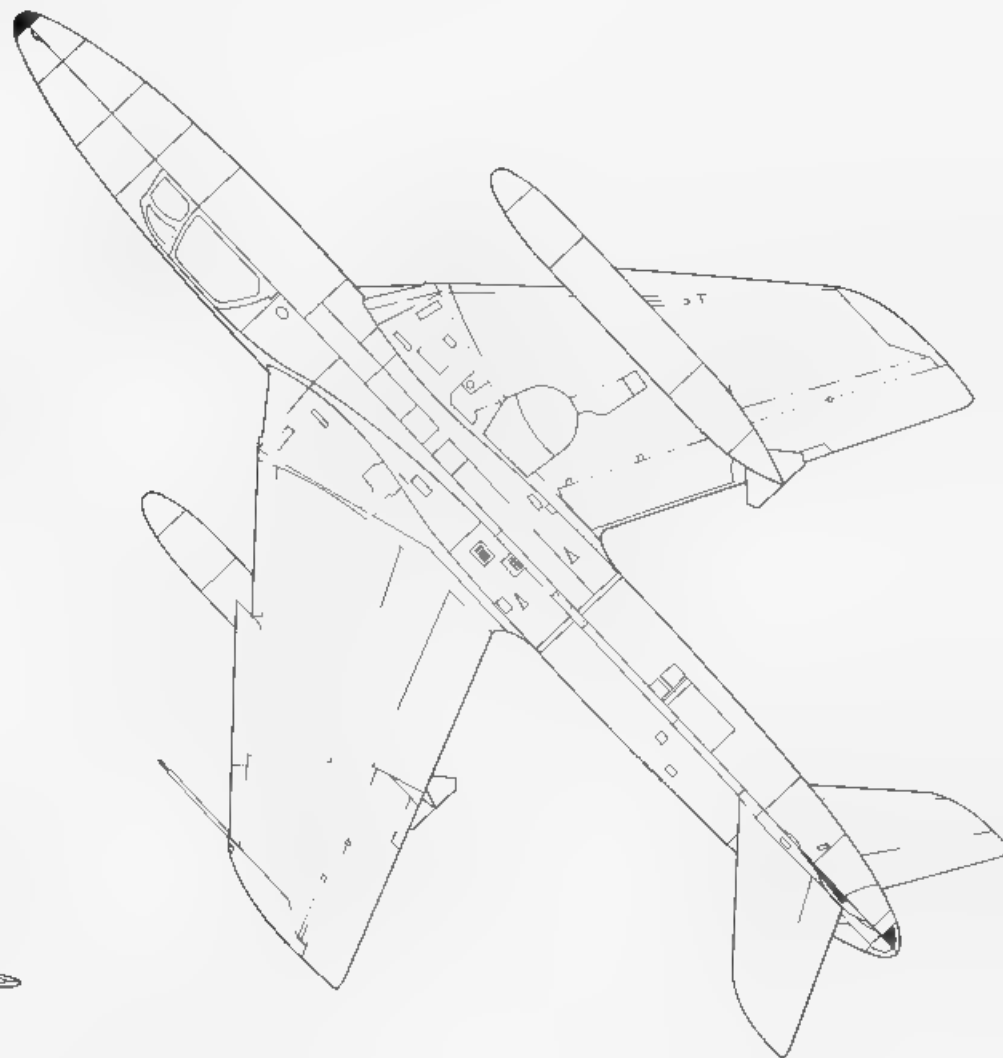
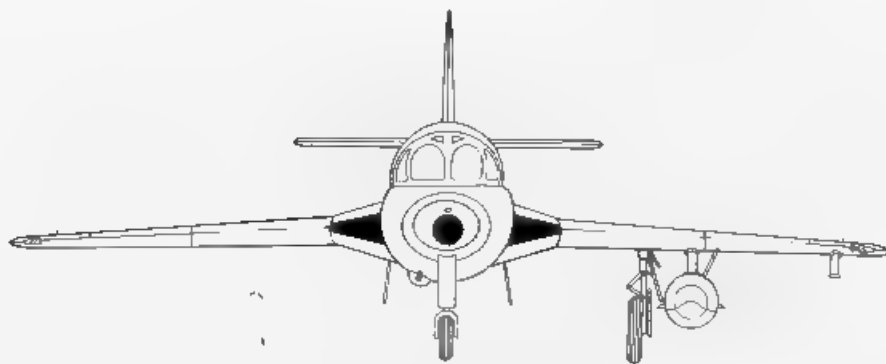
Specifications

Hawker Hunter T.7

Wingspan 33 feet 8 inches
Length 48 feet 10 5 inches
Height 13 feet 2 inches
Empty Weight 13,360 pounds
Maximum Weight 17,200 pounds
Powerplant..... One 7,550 lbfst Rolls-Royce
 Avon 122 turbojet

Armament.. . . . One 30mm Aden cannon.

Performance
Maximum Speed 694 mph
Service ceiling 47,000 feet
Range 1,900 miles (with tanks)
Crew Two



Switzerland is probably the country with the greatest ties to the Hunter outside Britain. When the Swiss Air Force ordered a third batch of single seat aircraft for delivery between 1974-1975 they also requested eight two seaters under the designation T 68. After their arrival in Switzerland these aircraft were modified to carry Sidewinder AAMs and several were fitted with the SAAB BT9K bombing system.

As part of a larger arms deal, the British Government sold five converted F 6s to Kuwait during 1965-66 under the designation Hunter I 67. These aircraft were merely a stop gap, since Kuwait was awaiting delivery of a number of McDonnell-Douglas A-4KU Skyhawks.

The Royal Saudi Air Force received a batch of Hunters under the "Magic Carpet" arms deal of 1966 and this delivery included two trainers under the designation T 70. The two aircraft remained in RSAF service until 1974 when they were returned to Hawker.

When the British military withdrew from Singapore, the small island state built up its own defenses against the threat of communist expansion in South East Asia. One of the first aircraft purchased for the new Republic was a number of Hunters for the newly formed Republic of Singapore Air Force. The first group of aircraft were delivered during the early 1970s followed by a second batch that included nine trainers. The first four aircraft were designated as Hunter T 75s. These were all ex-single seat fighter airframes that were converted to T 7 standard, completely refurbished and delivered between late 1969 and September of 1970. A further five aircraft, designated T 75As, were purchased between 1972 and 1973 giving the RSAF a total of nine trainers. They were all assigned to No 141 (Merlin) Squadron and at least two carried very large sharkmouth markings.

Chile purchased five trainers designated Hunter T 72s during the early 1970s. Included

in this delivery were the second prototype Hunter trainer and the Hawker company demonstrator, G-APUX. Chilean Hunters serve with Nos 8 and 9 Grupos.

Iraq bought five Hunter T 69s which were delivered between 1963-65. These were all ex-single seat conversions. The current status of the Iraqi Hunter force is unknown but it is believed that most have been replaced by Soviet aircraft.

The Sultan of Oman received at least three Hunter T 66Bs (as a gift from King Hussein of Jordan) which operate alongside several T 67s which were donated by the Kuwaiti Air Force. It is believed that these aircraft remain in service with No 6 Squadron at Thunrat.

Abu Dhabi purchased a number of Hunters, including two T 77s, during the late 1960s. These aircraft were delivered between 1970-71 and served with No 8 Squadron at Sharjah until 1975, when the Sultan Qabees donated them to Jordan.

The small state of Qatar received a single T 79 trainer along with three FGA 78s in 1971. These aircraft were flown by RAF pilots on loan to Qatar until they were replaced by Alpha Jets.

Kenya purchased two Hunter T 81s through Millbank Technical Services, a British agency, during 1974. Both trainers were ex-Royal Navy 1 8s refurbished and updated by Hawker before being resold to Kenya. One of these was later passed to Zimbabwe (formerly Rhodesia).

Somalia operates a number of (believed to be nine) ex-Abu Dhabi aircraft, one of which is a T 77. These aircraft were delivered under rather mysterious conditions after the Ethiopian/Somali border war. They are flown by white ex-Rhodesian and South African pilots in the ground attack role alongside a number of Shenyang F 6s and surviving MiG-17s and MiG-21s.

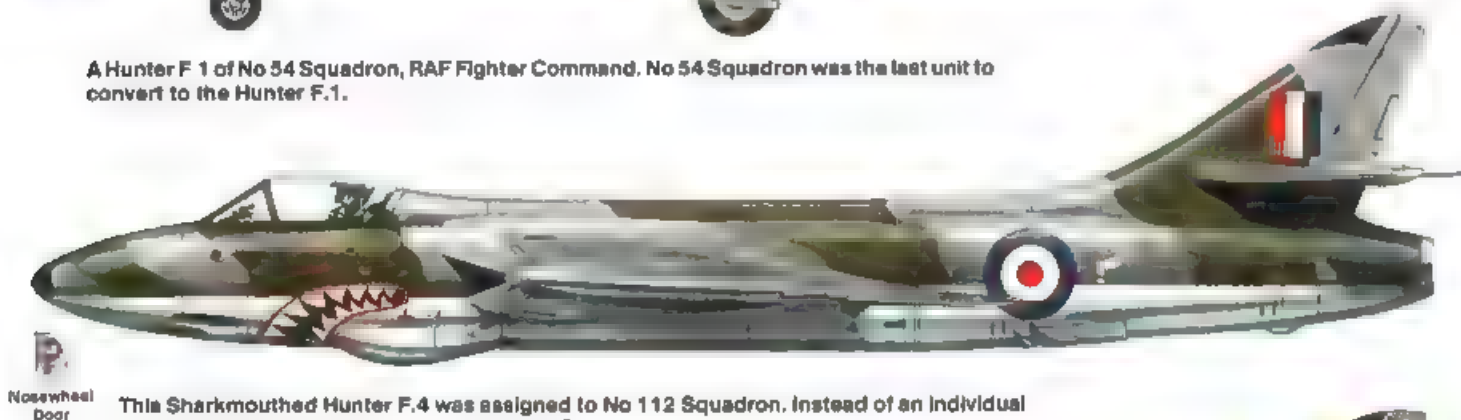
This Hunter T.7 (XL809) of No 56 Squadron carries the units Red and White checkerboard markings on the nose and wingtips and Yellow trainer bands on the wings and fuselage. The aircraft later served as a trainer in No 216 Squadron, a Buccaneer unit. (Arthur Drinkall Collection)



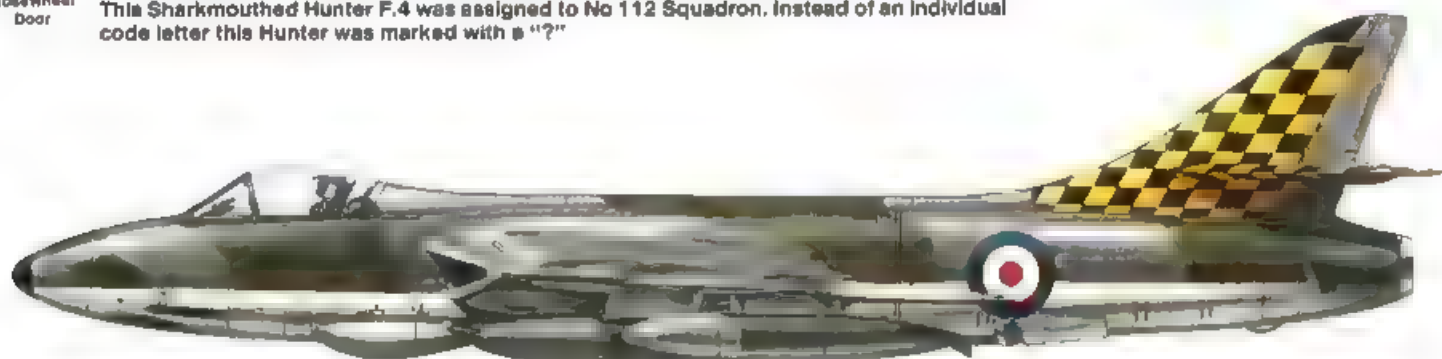
WB188 was the first of three Hawker P.1067 Hunter prototypes. The aircraft made its first flight in this overall Pale Green scheme.



A Hunter F.1 of No 54 Squadron, RAF Fighter Command. No 54 Squadron was the last unit to convert to the Hunter F.1.

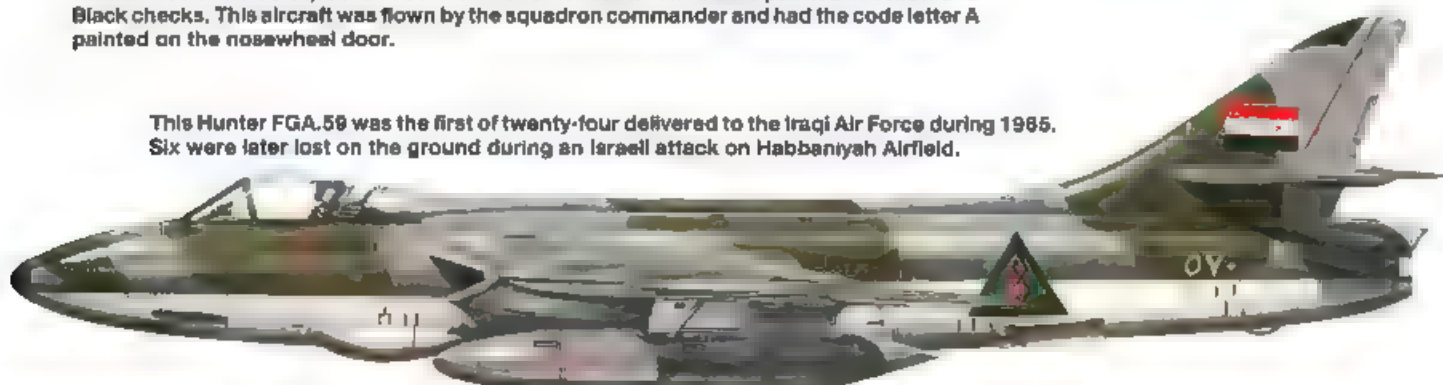


This Sharkmouthed Hunter F.4 was assigned to No 112 Squadron. Instead of an individual code letter this Hunter was marked with a "P".

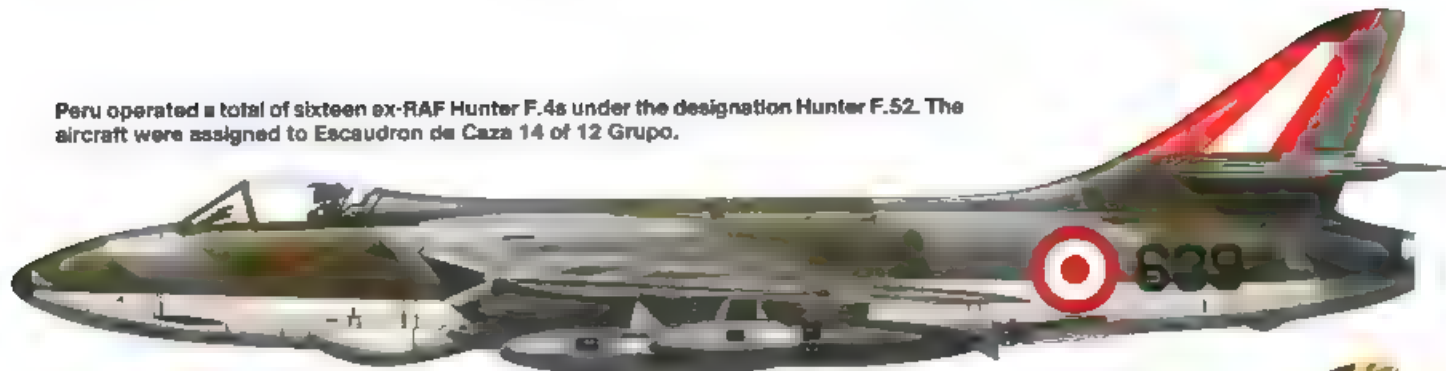


Hunter F.6a of No 83 Squadron had the fin and horizontal stabilizers painted in Yellow and Black checks. This aircraft was flown by the squadron commander and had the code letter A painted on the nosewheel door.

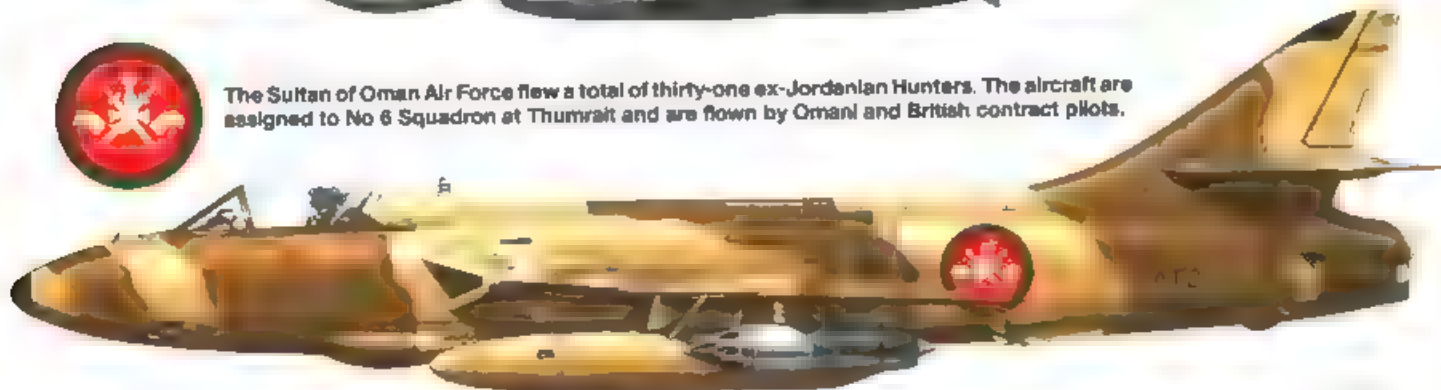
This Hunter FGA.59 was the first of twenty-four delivered to the Iraqi Air Force during 1965. Six were later lost on the ground during an Israeli attack on Habbaniyah Airfield.



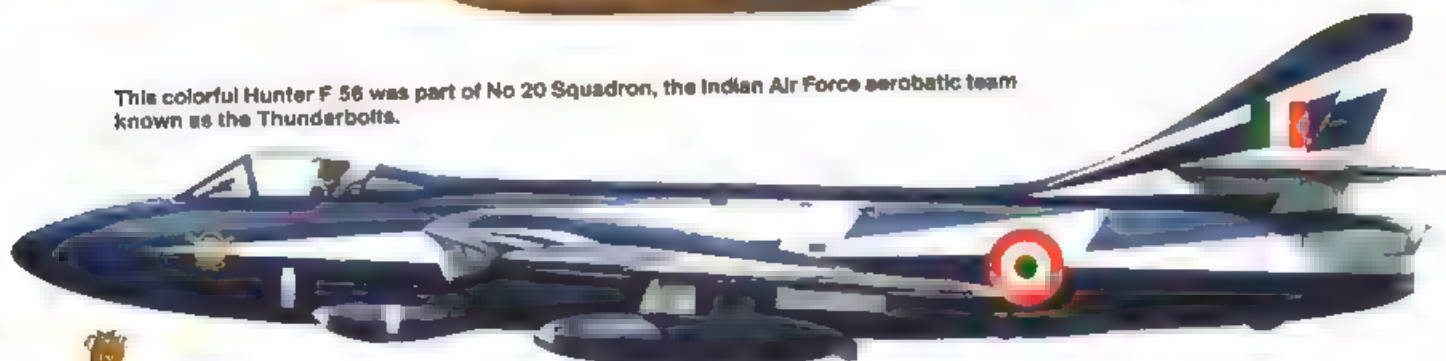
Peru operated a total of sixteen ex-RAF Hunter F.4s under the designation Hunter F.52. The aircraft were assigned to Escaudron de Caza 14 of 12 Grupo.



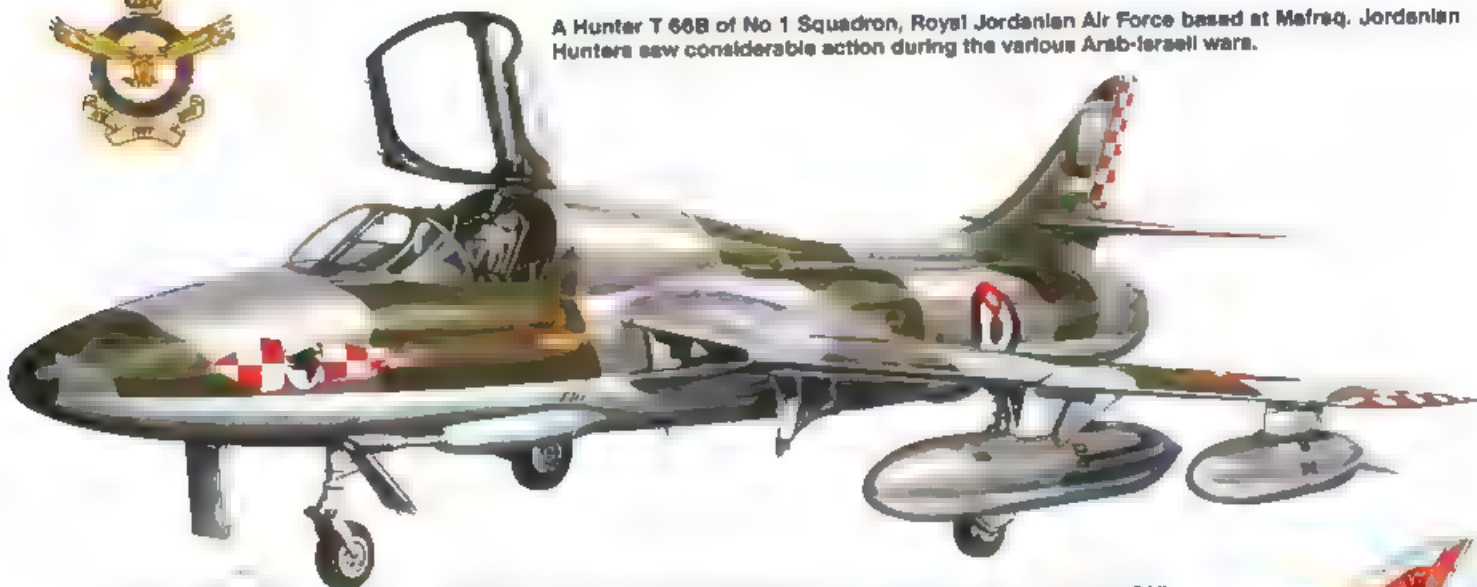
The Sultan of Oman Air Force flew a total of thirty-one ex-Jordanian Hunters. The aircraft are assigned to No 6 Squadron at Thumrait and are flown by Omani and British contract pilots.



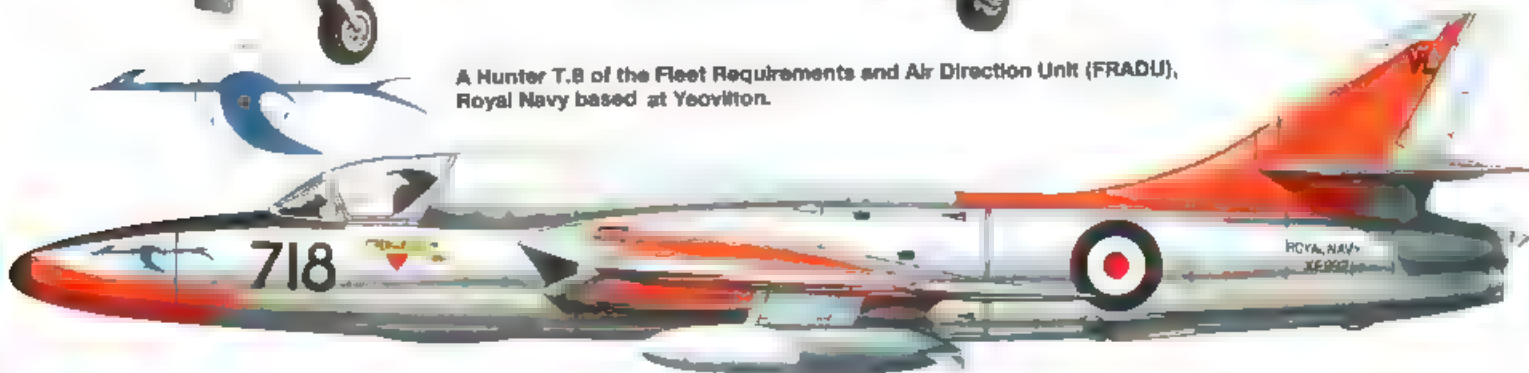
This colorful Hunter F 56 was part of No 20 Squadron, the Indian Air Force aerobatic team known as the Thunderbolts.



A Hunter T 68B of No 1 Squadron, Royal Jordanian Air Force based at Mafraq. Jordanian Hunters saw considerable action during the various Arab-Israeli wars.



A Hunter T.8 of the Fleet Requirements and Air Direction Unit (FRADU), Royal Navy based at Yeovilton.

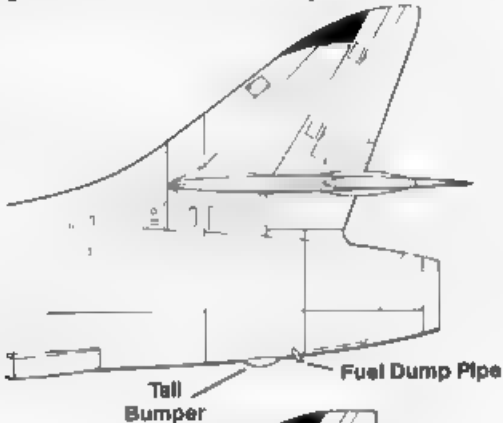




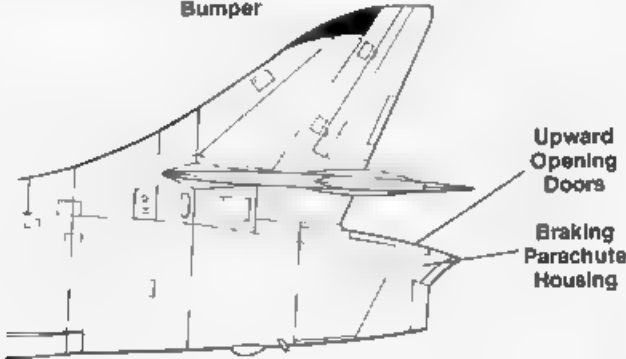
The RAF later changed the markings on its training Hunters to overall Silver dope with Dayglo Red Orange on the nose and fuselage. This Hunter T.7 (XL578) of No 229 OCU carried this scheme during the 1960s. (Arthur Drinkall Collection)

Braking Parachute Housing

Hunter F.6



Hunter T.7



A ground crewman uses an ordinary step ladder to work on the cockpit of this Hunter T.7 (XL601) of No 4 Fighter Training Squadron during the early 1970s. The aircraft was overall Light Gray with Dayglo Orange striping. (MAP)

Late in the operational career of the Hunter T.7 a number of aircraft were repainted with the training command Red and White trainer scheme. This Hunter T.7 (XL609) was assigned to No 216 Squadron, a Buccaneer unit, during the early 1980s. (MAP)



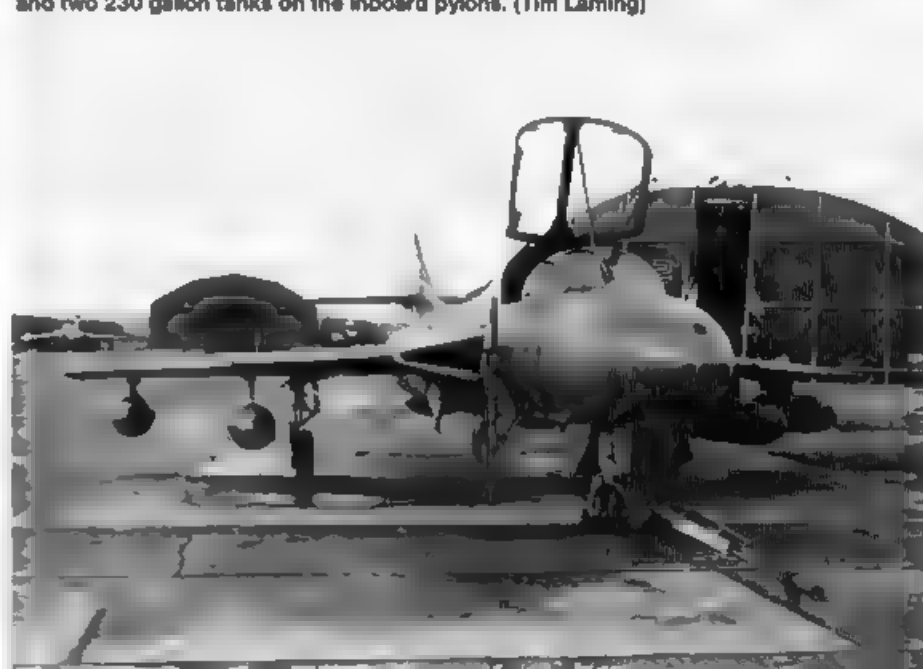


The remaining T.7s in RAF service carry a camouflage scheme similar to frontline combat aircraft and are mainly used for crew training with Buccaneer squadrons based at Lossiemouth in Scotland. This T.7A (XL814) took part in an air show during 1989, some 30 years after it was built. (Author)

This Hunter T.7 was assigned to the Empire Test Pilots School and carried the school's Red, White and Blue paint scheme. The school title was carried on the Red underwing tank in Black against a White stripe. (Author)



A Hunter T.7A of No 237 OCU parked on the apron outside one of the hangars at Lossiemouth, Scotland. The aircraft in the background is one of the Buccaneers that these aircraft support. This T.7 is carrying four underwing fuel tanks; two 100 gallon tanks on the outboard pylons and two 230 gallon tanks on the inboard pylons. (Tim Laming)

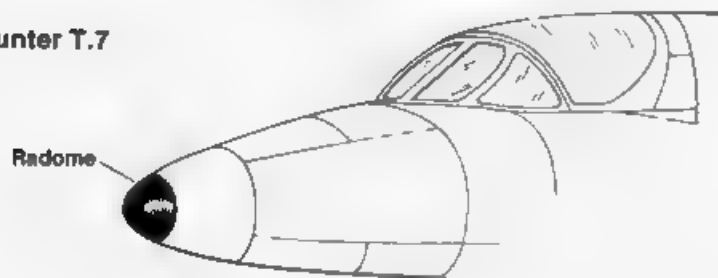




A Hunter T.8 (XF289) of the FRADU taxis out along the perimeter track at RNAS Yeovilton. The aircraft was converted from a Hunter F.4 and is equipped with a Harley light in the nose. The aircraft is overall Gray with Dayglo Orange areas on the nose, wings and fin. (Tim Laming)

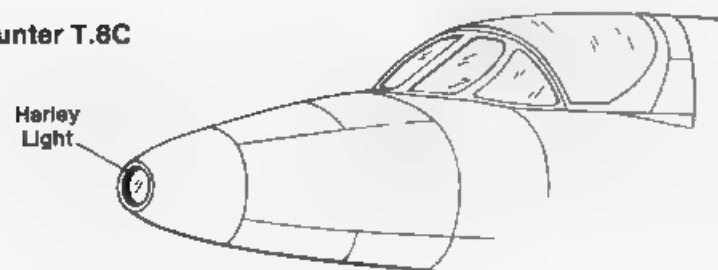
Nose Development

Hunter T.7



Radome

Hunter T.8C



Harley
Light



A Hunter T.8C (XF893) of the FRADU makes a low fast pass by the stern of the British carrier HMS ILLUSTRIOUS during a naval exercise off the coast of Britain. The tail hook is an identification feature of the Hunter T.8 and was used for field carrier landing practice. (Author)



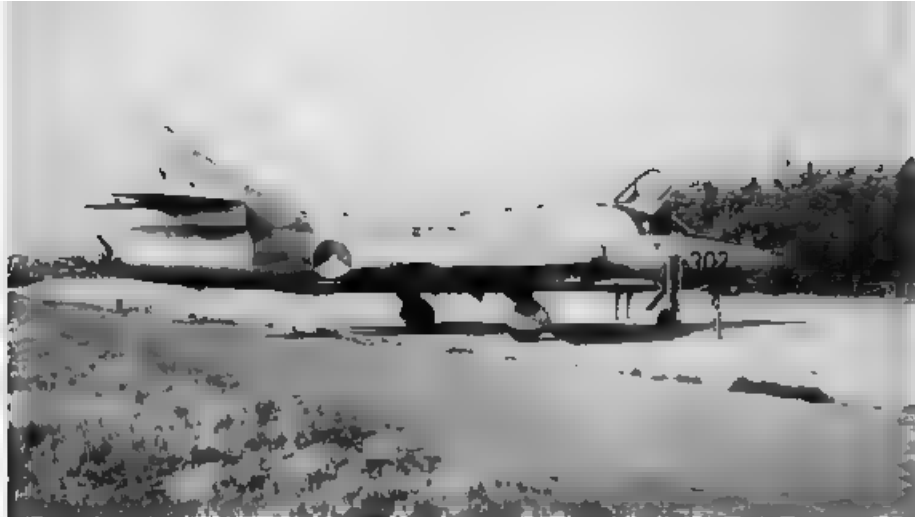
The Royal Navy's Flag Officer (Flying Training) is based at Yeovilton and had several aircraft at his disposal for official visits to FAA establishments. The "Admiral's Barge" Hunter T.8 carried a special color scheme of Royal Navy Blue uppersurfaces over White undersurfaces with the Admiral's pennant on the nose and a White surround applied to the national insignia. (BAe)



With the introduction of the Sea Harrier into Fleet service, a number of Hunter T.8s were modified with Blue Fox radars and radomes. This Hunter T.8 (XL580) was modified under the designation T.8M and assigned to No 899 Squadron. The aircraft also carries a Sidewinder missile simulator on the outboard wing pylon. (Author)

XE531 was the sole Hunter T.12 and was intended to be the trainer for the cancelled TSR.2. It was powered by an Avon and was to have been fitted with the same terrain following equipment as the TSR.2, including a camera in the nose. After the TSR.2 was cancelled the Hunter was operated by the RAE at Farnborough in a special Green and White paint scheme. (BAe)



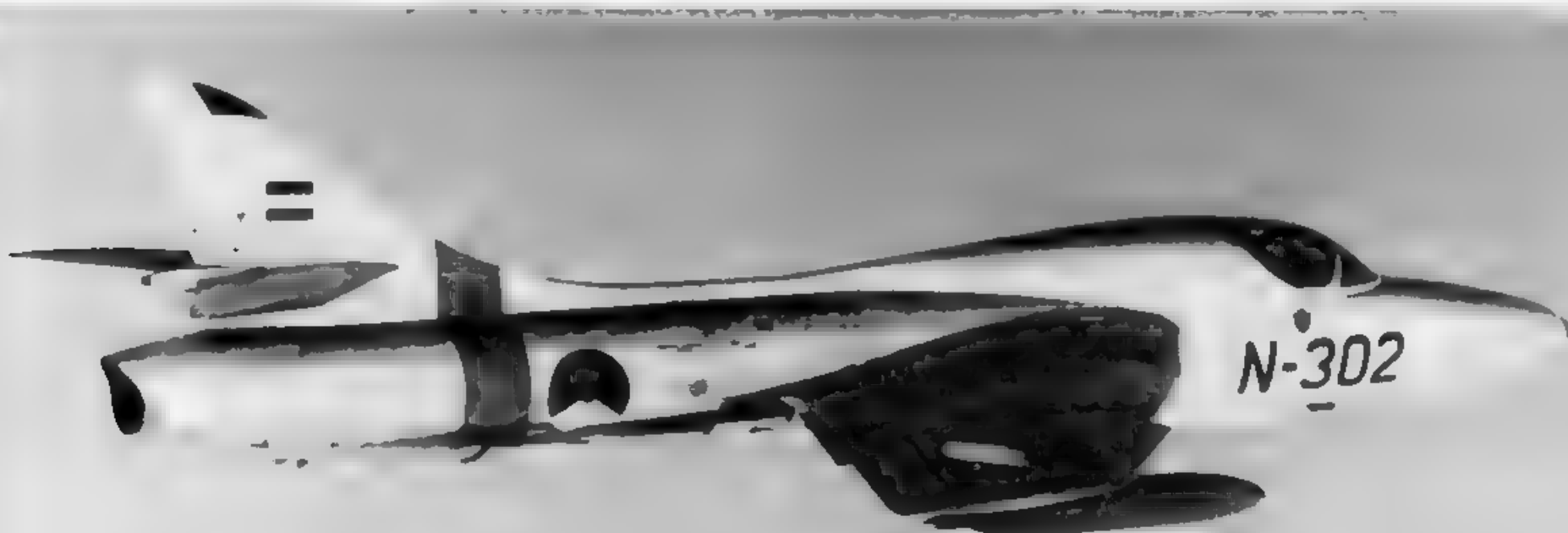


N-302 was the second aircraft delivered from an order for ten Hunter T.7s. The entire order was delivered to the Netherlands during 1958. The aircraft were delivered in standard RAF trainer colors of overall Silver dope with Yellow trainer bands. The aircraft serial was carried on the nose and repeated on the fin in Black. (RNethAF)



Ground crewmen prepare a Hunter T.7 (N-317) for a training sortie at an airbase in Holland. Dual boarding ladders are in place and the aircraft is being fueled from a fuel truck. As a safety measure a large fire extinguisher is positioned near the refueling point. (RNethAF)

Later the Royal Netherlands Air Force replaced the serial number on the fin with a fin flash insignia and reduced the size of the Yellow fuselage band. The Hunters trainers were used primarily as conversion trainers for pilots transitioning into the Hunter. (RNethAF)





Two Hunter T.53a were purchased by Denmark for service with Esk-724. The aircraft were unusual in that they were the only Hunter trainers to feature a straight wing leading edge. (Arthur Drinkall Collection)

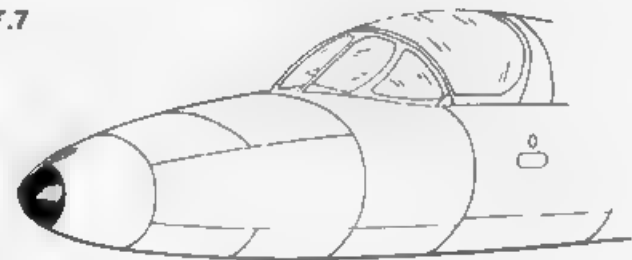
A Swiss Air Force Hunter T.68 (J-4203) taxis in at Dusseldorf Air Base in Switzerland after a sortie. The T.68 has seen wide use in Switzerland and has an excellent safety record. The white band on the rear fuselage was a recognition marking added for an air defense exercise. (Author)



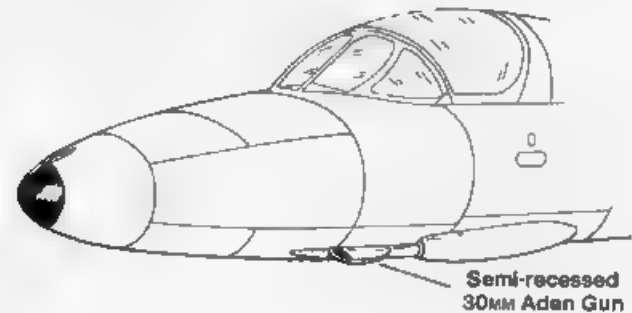
This Swiss Air Force Hunter T.68 is carrying an Electronic Countermeasures Pod on the out-board wing pylon. Swiss Hunter trainers are armed with twin Aden 30mm cannons in semi-recessed housings under the forward fuselage. (Author)

Export Trainer Gun Installation

Hunter T.7



Export Hunter Trainers





Abu Dhabi received two Hunter T 77s rebuilt from an ex-Dutch airframes. The aircraft were camouflaged with Sand and Earth Brown uppersurfaces over Light Blue undersurfaces and carried both English and Arabic lettering. Later they were passed to Somalia. (MAP)



This Hunter T.62 was rebuilt from an F.4 airframe for delivery to Peru. This was the sole Hunter trainer operated by Peru and was modified with a directional compass in a blister behind the canopy. Hunter 681 carried standard British camouflage with Red, White, Red fin stripes. (BAe)

The Indian Air Force operated a number of Hunter trainers under the designation Hunter T.68. This IAF Hunter T 68 (BS361) served with No 17 Squadron at Peana. Like many other export models these aircraft were armed with two Aden cannons. (BAe)



Chile placed an initial order for three Hunter trainers under the designation T.72s. J-718 was the first one of these and carried a temporary British registration while awaiting delivery. Later the FACH ordered additional Hunter trainers which were still in service in 1991. (BAe)



Ground Attack Variants

Hunter FGA.9

During the late 1950s the RAF began looking for a replacement for the Venom in the ground attack role and decided to produce a ground attack variant of the Hunter F.6. It was intended to introduce the aircraft into squadron service by the end of 1959, to coincide with the introduction of the English Electric Lightning F.1 as the RAF's first line interceptor.

The Hunter ground attack variant would differ from the standard F.6 in that it would have strengthened wings and pylons to handle the additional weight of larger underwing fuel tanks and weapons. The flaps were modified with a section being cut away from the outboard corner of the flap. This was done to allow the FGA.9 to carry 230 gallon tanks on the inboard pylons. To allow the Hunter to carry these tanks in combat, a small brace was added which ran from the tank to the underside of the wing. Additionally, the entire outboard wing pylon could be jettisoned in an emergency by the use of an explosive pylon ejector gun which was housed in a fairing above the wing.

To assist in short field operations, the braking parachute installation used on the Hunter T.7 was incorporated into the design and the cockpit was air conditioned to allow the aircraft to operate in tropical conditions.

The primary weapon used by the Hunter FGA.9 was the three inch (76MM) rocket, twelve of which could be carried under each wing. Alternate loads carried on the outboard pylon included bombs up to 1,000 pounds, various rocket pods and napalm tanks.

The first aircraft modified to this new standard, XG135, made its first flight on 3 July 1959 under the designation Hunter FGA.9 and within six months this variant was reaching frontline squadrons. During this period, the RAF was reorganized with Fighter Command now becoming Strike Command. The first units to convert to the Hunter FGA.9 were Nos 1, 8 and 54 Squadrons which completed transition during 1960-61. These were followed by Nos 43 and 208 Squadrons. Almost immediately the FGA.9 was sent overseas to Aden and the Persian Gulf in a show of force.

Iraq had been making a number of claims for territory that was under British control and in response to this threat the British had maintained a strong force in the region. To reinforce these units, No 8 Squadron was dispatched to Khormaksar Air Base in Aden while No 208 Squadron deployed to Embakasi in Kenya. These deployments were in response to intelligence reports indicating that an Iraqi attack was expected against Kuwait sometime around 14 July (the Iraqi National Day).

As the date drew nearer, both squadrons moved their aircraft to Bahrain in anticipation of the attack. The Hunters were backed up by a number of different RAF types and the carrier HMS BULWARK was diverted to the region to provide early warning radar coverage. In the event, the Iraqi National Day passed without the expected invasion and the Hunters were returned to Aden and Kenya.

As Kenya was shortly to become independent from Britain, the RAF started to wind down operations at Embakasi and moved No 208 Squadron to Aden during 1962. This turned out to be a wise move as trouble was brewing in the state of Yemen.

During 1962, President Nasser of Egypt, who had strong anti-British feelings, was attempting to force the British from the area. To combat the Egyptian sponsored insurgency, No 208 Squadron FGA.9s, along with a number of Shackletons, conducted leaflet dropping missions. These were followed by bombing missions against the insurgents. In the Radfan area, anti-British feeling had mounted to the extent that during late 1963 an attack was made against the British High Commissioner. In response, the British sent in troops backed up by air cover. No 43 Squadron had been moved in, giving the RAF three FGA.9 squadrons in the region.

The main insurgent force had gathered in a fort at Hanb near the border and this became a prime target for the Hunters. After dropping leaflets to warn the population, the fort was attacked with bombs and rockets. This attack was followed by parachuting in a section of troops from 22 SAS under cover of darkness to prepare a Drop Zone for further reinforcements. At daybreak the SAS unit came under heavy fire and the RAF responded by launching a series of raids against the enemy positions with aircraft from Nos 43 and 208 Squadrons. The Hunters flew some eighteen sorties firing 127 rockets and some 7,131 rounds of 30MM ammunition. This air cover allowed paratroops to be dropped in to aid the SAS team.

The battle lasted some thirty hours and cost two British troopers. Afterward, British forces spent several months breaking down the bands of enemy rebels with the FGA.9s being called on to provide air support. By mid-1964 the crisis was over and from that point, until the British withdrawal from Aden during 1967, the FGA.9s spent much of their time flying patrols to intercept and escort Egyptian MiG fighters out of British controlled airspace.

During September of 1961, No 20 Squadron was reformed in the Far East with FGA.9s at Tengah in Singapore. This was in response to a confrontation with Indonesia over the formation of the state of Malaysia. The Indonesians started uprisings in Brunei and Sarawak but these were countered by the British who sent in troops, including the Gurkhas, to the region. Air support was provided by No 20 Squadron Hunters and a squadron of Canberra bombers.

The Indonesians responded by launching a number of cross-border attacks and as tensions increased between the two nations, the RAF moved a joint Hunter/Javelin flight to Labuan to counter the growing number of Indonesian incursions into Malay-

A line up of Hunter FGA.9s of No 1 Squadron on their home base ramp during 1962. The aircraft are configured with 230 gallon underwing tanks on the inboard pylons. To allow the tank to be carried in combat it was reinforced by a small brace that ran from the tank to the underside of the wing. (MAP)



sian airspace. The Indonesian Air Force was really no match for the RAF, since its main combat aircraft were Second World War vintage B-25s and P-51Ds. The rules of air combat allowed the RAF to shoot down any aircraft that entered the declared exclusion zone, although in the event no air combats took place.

By mid-1964 the Indonesians were making bolder moves against Malaysia and the RAF in Singapore and Royal Australian Air Force at Butterworth were threatened after Indonesian paratroops landed in Western Malaysia. Additional Javelins were sent into the area, Gannet AEW aircraft from HMS VICTORIOUS were put on station and the Country Class Destroyer, HMS KENT deployed to the area as a radar picket. Probably the boldest RAF deployment was the move of a number of nuclear capable Victor bombers into the theater.

The Indonesians had received a number of aircraft from the Soviet Union including Tu-16 bombers and MiG-17, 19 and 21 fighters. On one occasion a Hunter engaged an Indonesian MiG-17. Neither fighter fired on the other, both pilots merely attempting to outfly the other. The Hunter was able to perform a rolling pullout from a high speed dive which the MiG-17 could not follow without losing control, allowing the RAF pilot to "kill" the MiG. Officially, the engagement never occurred because British aircraft "never" crossed the border into Indonesian airspace. The undeclared war ended during 1965 after the Indonesian leaders were overthrown.

The FGA.9 was to be the standard strike aircraft for the remainder of the decade until it was replaced in frontline units by the Harrier, Phantom or Jaguar. The FGA.9 served in the secondary role as a tactical weapons trainer with units like the TWU at Brawdy until withdrawn from service in 1976.

GA.11

The Fleet Air Arm of the Royal Navy acquired a number of ground attack Hunters for use as advanced weapons trainers. These aircraft were conversions of early Hunter F.4s under the designation GA.11. The aircraft were modified with wing leading edge extensions, a field arrestor hook and had the guns deleted. A small number of GA.11s were outfitted with cameras and redesignated as PR.11s.

A Hunter FGA.9 rolls out on the runway at Luqa, Malta, trailing its braking parachute. The aircraft is configured with 230 gallon braced tanks on the inboard pylon and 100 gallon tanks on the outboard pylons. (MAP)



The first GA.11 conversion flew during early 1962 and by the middle of that year the aircraft were being delivered to No 739 Squadron at Lossiemouth. Nos 738 and 764 Squadrons also used the GA.11 and forty aircraft were delivered to the FAA. A follow on order was planned but was cancelled by budget cuts, so a number of standard Hunter F.4s were operated for a short period.

Today the GA.11 is operated at Yeovilton by civilian contract pilots as part of the FRADU. The aircraft fly alongside T.8s in support of naval training for both the FAA and the surface fleet, operating in the role of "enemy" strike aircraft.

Exports

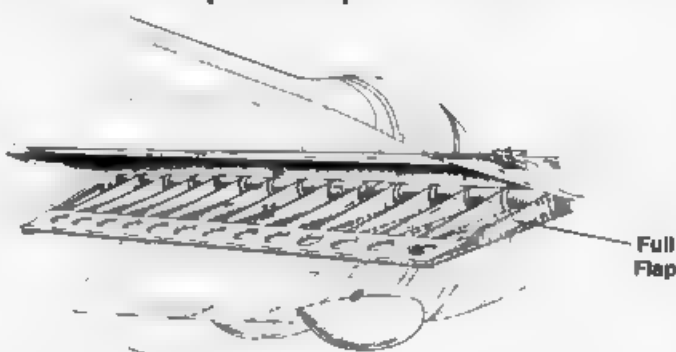
Hunter ground attack variants have seen considerable action in the Middle East, being flown by a number of different countries. After lengthy negotiations the British government sanctioned the sale of fifteen ex-RAF F.6s (upgraded to FGA.9 standard) to Iraq during 1963. These aircraft were given the export designation FGA.59. The order was increased to twenty-four aircraft, with a second order being placed during 1965-66, giving the Iraqis a total of sixty-four aircraft by the time the Six Day War began.

When the Israeli Air Force launched its preemptive strikes against selected Arab targets, Iraqi Air Force bases were among the selected targets. During the attack at Habaniyah Air Base, five FGA.59s were destroyed and a number of others were damaged. Overall the only part that the Iraqi Hunters played during the war was combat air patrols and top cover for MiG-17s conducting ground attack missions.

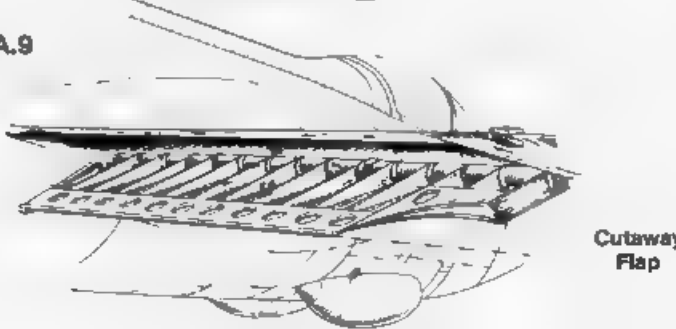
During the 1973 Yom Kippur War, Iraqi Hunters were used alongside Sukhoi Su-7s in ground attacks against Israeli targets. On some missions they worked as top cover

Flap Development

Hunter F.6



Hunter FGA.9





This Hunter FGA.9 was part of a mixed unit of aircraft from Nos 43 and 8 Squadrons which made up the Khormaksar Strike Wing. The unit saw action in Aden during 1967 as part of Operation Radfan. (MAP)

Hunter FGA.9 XE550 also served with the Khormaksar Strike Wing in Aden. The aircraft's parent unit was No 43 Squadron. This Hunter was later sold to Kuwait during the late 1980s. (MAP)



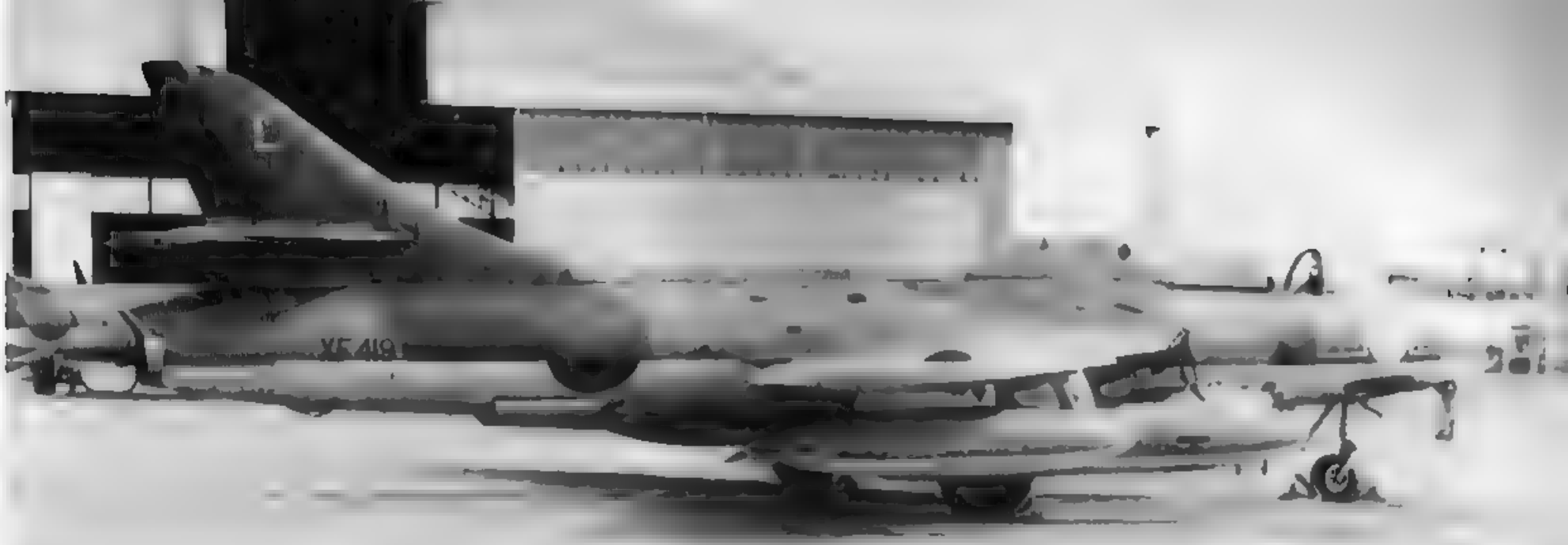
along with Syrian MiG-21s. When Israeli F-4Fs were encountered, the Hunters departed the combat zone since they were no match for the much more powerful Phantom. On several occasions FGA 59s engaged IDFAF A-4 Skyhawks and Super Mysteres with Iraqi pilots claiming at least twelve aircraft destroyed for a loss of seven Hunters (two to ground fire).

In 1980, Iraq and Iran began a ten year war for control of the Gulf region. Iraqi Hunters were, as far as can be determined, used solely in the ground attack role against land targets. Reportedly, Iraqi FGA 59s took part in chemical attacks, dropping mustard gas on Iranian troops. Currently, it is believed that the aircraft have been replaced by Soviet built types but a few may remain in second line service.

The Jordanian Air Force received eight ex-RAF FGA 9s during the late 1950s. After the Six Day War the RJAF ordered two FGA 73s, seven FGA 73As and twelve FGA 73Bs to replace the aircraft lost to IDFAF attacks. These aircraft were delivered between 1968 and 1971. The designator suffix letter identified aircraft of different refurbishment batches. During early 1975, a few aircraft were obtained from Abu Dhabi but within a short period the entire Hunter fleet was donated to Oman.

Oman is one of the West's most important allies in the Persian Gulf region and has operated Hunters obtained from a variety of sources. For some time Oman had been under the threat of a hostile government in communist South Yemen. Initially Oman had more aircraft than pilots and a number of Hunters were put into storage while others were used to form No 6 Squadron. Servicing was done by RAF ground crews, while aircrews were made up of RAF pilots along with a number of contract mercenary pilots.

In response to the growing attacks by the Popular Front for the Liberation of Oman (PFLO), the Sultan's forces, with aid from the Shah of Iran, planned a cross-border offensive against the terrorists. On 17 October 1975 the attack commenced with a bombardment by Iranian Navy ships was followed by an air strike by the Omani Hunters flown by the mercenaries (for political reasons). In order to avoid SAM missile batteries,



Carrying 100 gallon tanks on the outboard pylons and 230 gallon tanks on the inboard this Hunter FGA.9 (XF419) served with No 58 Squadron. The small bulge over the wingtip is the blister covering the pylon ejector gun used to explosively jettison the entire pylon assembly in an emergency. (MAP)

the Hunters made their approach at about 15,000 feet and attacked in a steep high speed dive, releasing their bombs at low level. Several Hunters were damaged during the campaign including one aircraft that was hit by an SA-7 missile in the rear fuselage but managed to return to base where it crash landed. The missions continued until early December of 1975.

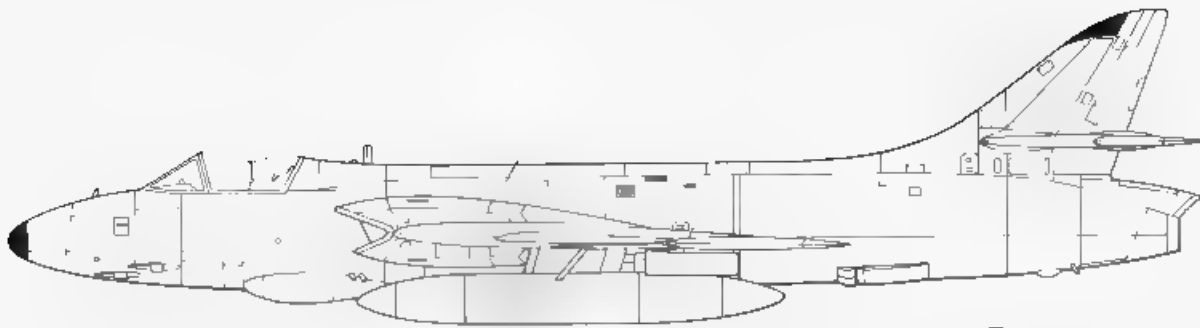
Lebanon received a number of FGA.70s which operated alongside their earlier F.6s. These were ordered during 1975 for delivery the following year but delivery was suspended due to the civil war that was being fought throughout the country. In December of 1977, the aircraft were finally delivered and equipped the one combat unit. Following the Israeli invasion of 1982, a number of aircraft briefly operated from a suitable section of highway north of Beirut. It is believed that one aircraft had to land at Akrotiri, on Cyprus, during 1983 after sustaining damage from ground fire and another was lost to ground fire during 1985.

During 1970, Abu Dhabi received seven FGA.76s from Britain. These served alongside other Hunter variants as part of a single Hunter squadron. Later the aircraft were passed to Jordan. During 1971 the neighboring Gulf state of Qatar received two FGA.78s which were identical to the FGA.76s delivered to Abu Dhabi.

Chile has operated a total of twenty-eight FGA.71s with the first aircraft arriving during 1966 and the last being delivered during 1974. During 1973, Chile went through a military coup which overthrew President Allende and the Hunters were used to conduct attacks against the presidential palace with rockets. The following year Britain placed trade sanctions against Chile in response to the military government's treatment of prisoners and, by 1978, the Hunter force had been reduced to some twenty aircraft.

Pilots of No 43 Squadron pose with Gurkha troops in Aden during the late 1960s. XG298/E was a Hunter F.6 that was rebuilt to FGA.9 standard. The bar across the fin is a gust lock, which kept the rudder from being damaged in the windy conditions on airfields in Aden. (BAe)

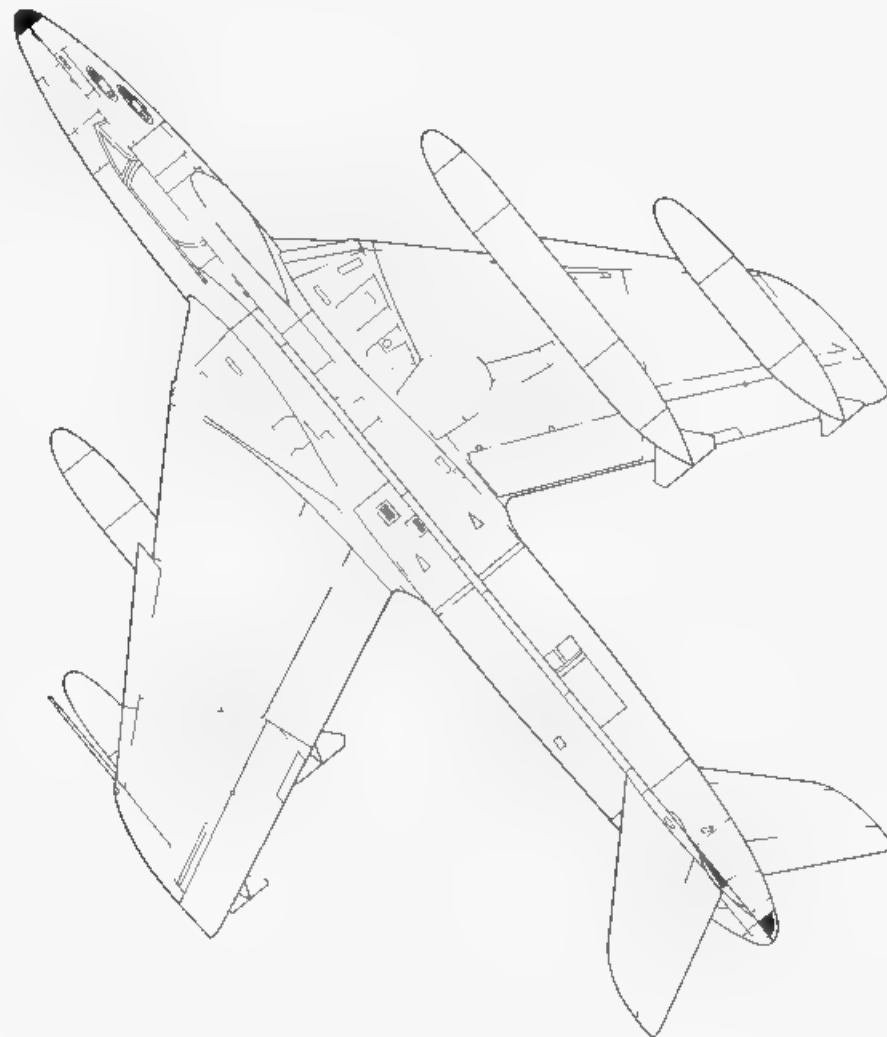
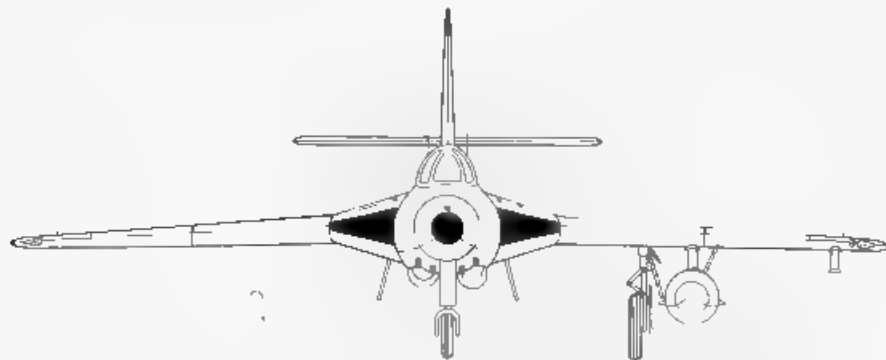




Specifications

Hawker Hunter FGA.9

Wingspan	33 feet 8 inches
Length	45 feet 10.5 inches
Height	13 feet 2 inches
Empty Weight	14,400 pounds
Maximum Weight	24,600 pounds
Powerplant	One 10,000 lbfst Rolls-Royce Avon 207 turbojet
Armament	Four 30MM cannons and 3,000 pounds of external ordnance
Performance	
Maximum Speed	702 mph
Service ceiling	52,000 feet
Range	1,850 miles (with tanks)
Crew	One



Later, relations between the two countries warmed and spare parts for the Hunter fleet once again were delivered allowing the operational ready rates to gradually increase. Following the Argentine invasion of the Falkland Islands during 1982, the British turned to Chile for help in a number of areas. One area concerned the possibility of British aircraft being allowed to operate from bases within Chile and it is known that a number of Canberra PR 9s flew from Chile (carrying low vis Black outline Chilean insignia). Chile also allowed at least one Sea King to land in its territory, apparently to land members of the SAS.

Shortly after the war twelve ex-RAF FGA.9s were delivered to Chile along with three Canberra bombers. These aircraft were understood to be payment for favors given to Britain during the conflict. It is understood that most of these aircraft were used for spares to return the original FGA.71s to full operational status. During 1983, an upgrade program was begun in Chile under the name *Aguila*. This program involves updating the Hunters with a radar warning receiver mounted on the tip of the vertical fin, a chaff/flare dispenser and an updated cockpit. The FGA.71s can also be armed with Israeli Shafir air-to-air missiles.

During 1968, the Republic of Singapore bought twelve FGA.74s which were followed by an additional twenty-two FGA.74Bs. The first batch were delivered during 1970-71 with the remaining aircraft reaching Singapore by the end of 1973. The first aircraft were assigned to No 140 (Osprey) Squadron with the second batch being used to form No 141 (Merlin) Squadron. Since their delivery, the aircraft have been upgraded to enable them to carry AIM-9 Sidewinder air-to-air missiles.

Three different African air forces have used the Hunter to fill their requirements for a ground attack aircraft. The Rhodesian Air Force purchased twelve ex-RAF FGA.9s during the mid-1960s assigning them to No 1 Squadron. These aircraft later saw action in the counter-insurgency role against various Soviet backed forces opposed to the Rhodesian government. Hunters of No 1 Squadron operated against these insurgents using a variety of air-to-ground weapons.

One weapon used with some success was the Golf bomb, a 1,000 pound "Daisy" cutter bomb which exploded above the ground giving it a great "kill potential." Reportedly, on one raid some sixteen out of a group of twenty-six insurgents were killed by a single bomb. By the time the conflict ended in 1979, two Hunters had been lost to ground fire. After Rhodesia became Zimbabwe a number of Hunters, along with some newly obtained Hawk trainers, were destroyed in a terrorist attack on Thornhill Air Base during July of 1982.

The Kenyan Air Force purchased four FGA.80s and two T.81s from Britain during 1974. The aircraft were later replaced by F-5s and passed to Zimbabwe. The least known of the African Hunters are those operated by Somalia. The Somalia Army Air Corps operate nine ex-Abu Dhabi aircraft, seven FGA.76s, a single F.R. 76A and a T.77. The aircraft are based at Berbera and are flown alongside Shenyang F.6s and the surviving MiG-17s and MiG-21s. It is believed that they are maintained by contract maintenance personnel from South Africa and flown by white ex-Rhodesian Air Force pilots.

Still flying with the A&AEE is FGA.9 XE6091 in a Gray and Red scheme. The aircraft started out as an F.8 but was brought up to FGA.9 standard although it has never been officially recognized as one. It only rarely showed itself but on this occasion was at the Air Tattoo at RAF Fairford in 1989. (Author)





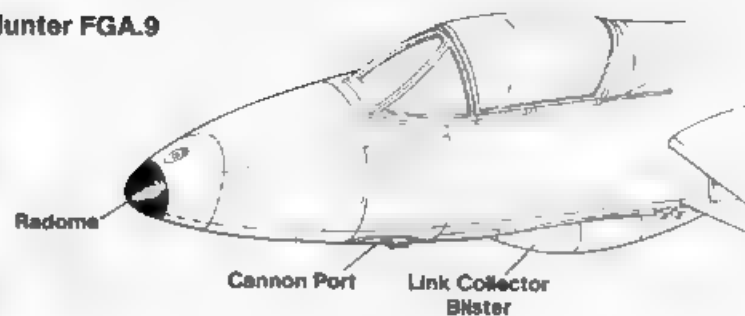
The Royal Navy operated a number of Hunter GA.11s from RNAS Yeovilton. The GA. 11 had the gun armament and link collector blisters deleted and had a large search light, known as a Harley light installed in the nose. (Tim Laming)

The Hunter GA.11s shared RNAS Yeovilton during the early 1980s with Sea Harrier FRS.1s and Canberra T 22s. Later the Canberras were transferred to RAF Wyton. (Tim Laming)

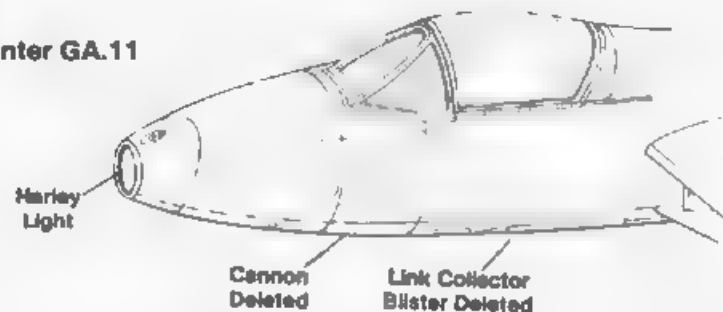


Nose Modifications

Hunter FGA.9

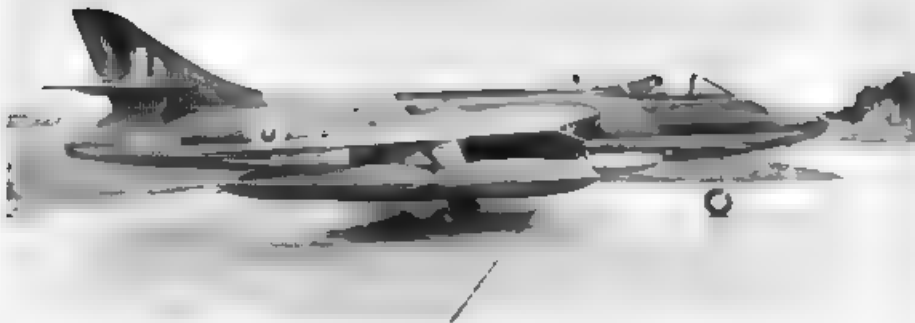


Hunter GA.11



This Hunter GA.11 (XE368) on display at RAF Waddington in April of 1990 is assigned to the Fleet Requirements Air Direction Unit (FRADU) and carries an overall Gray scheme with Black lettering. (Author)





Rhodesia received a number of Hunter FGA.9s during 1963. Since the country became Zimbabwe their markings have been changed dramatically. The Hunters now carry a Dark Green and Dark Earth camouflage and the only insignia is a small Zimbabwe bird marking on the upper fin. (BAe)



After the 1982 Falklands War the British government gave a number of Hunter FGA.9s, including this Hunter J-737, to Chile as payment for their assistance during the war. Reportedly a number of these aircraft were stripped to be used for spare parts to keep other Hunter FGA.71s airworthy. (MAP)

This Hunter FGA.71 (J-740) of the Chilean Air Force has been upgraded with a Calquen II radar warning receiver antenna on the fin as part of the the *Aquila* update program (via Jeff Ethell)

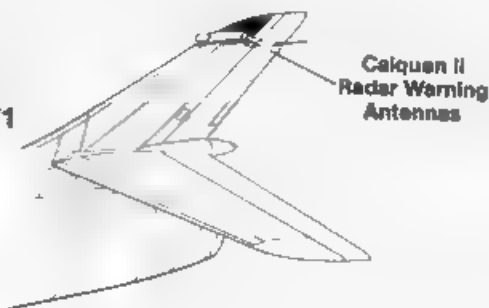


***Aquila* Modification**

Hunter FGA.71



***Aquila* Hunter FGA.71**





Kuwait operated four FGA.57s as interim equipment while waiting for delivery of a number of McDonnell-Douglas A-4KUs. The aircraft carried a desert camouflage scheme and were later passed to Oman. (BAe)



A Hunter FGA.78 of the Qatar Air Force undergoes major maintenance. The aircraft was a former RNethAF aircraft rebuilt to FGA.9 standard for Qatar. These aircraft were later replaced by Alpha Jets and Mirage F.1s. (MAP)

FGA.70s featured a large blade antenna on the spine, two whip antennas under the fuselage and a "towel rail" antenna on the port fuselage side. Unlike the earlier Hunters flown by Lebanon, the fin flash on the FGA.70s was horizontal. (BAe)

The Lebanese requested a follow on order of Hunter FGA.70s during 1977 to make up for losses suffered during various wars with Israel and the Lebanese civil war. They saw action during the early 1980s and one aircraft diverted to Cyprus after being damaged by ground fire. (BAe)





Iraq received a number of Hunter FGA.59s before the Six Day War. These aircraft have seen action against both Israel and Iran. Reportedly the Hunters attacked Iranian troops with bombs, rockets and chemical weapons. (BAa)

Just before it was delivered to the Jordanian Air Force, Hawker used this Hunter to exhibit at the SBAC display at Farnborough. The squadron markings are Red and White, while the Wolf's head is in Black on a White disk. (Douglas Ashley)



A pair of Iraqi Hunter FGA.59s fly formation with a pair of Egyptian Air Force MiG-15bis fighters. The various Arab air forces often worked together against the Israeli Air Force especially during the Six Day War and the Yom Kippur War. (Dr David Nicolle)

The Somali Army Air Corps operates a number of ex-Abu Dhabi Air Force Hunter FGA. 76s along with a single FR 76A and a T.77 The Somali national insignia is a White star on a Light Blue disk. The Hunters retained their former desert camouflage scheme. (via Nicholas J. Waters III)



Reconnaissance Hunters

Hunter FR.10

During 1956, work began on a photo reconnaissance variant of the Hunter to replace the aging Meteor FR variants then in service. To test the concept, Hawker experimented with mounting cameras in a modified Hunter F.4 (WT780). This led the Air Ministry to issue specification FR.164D, which called for a reconnaissance-fighter variant based on the Hunter F.6.

Hawker started to prepare an F.6, XF429, for use as a prototype FR Hunter and this aircraft made its first flight on 7 November 1958. The aircraft differed from the F.6 in having the ranging radar replaced by three cameras: a forward oblique camera and two side oblique cameras. Other modifications included the addition of a braking parachute and provision for carrying 230 gallon drop tanks. The aircraft was also outfitted with improved navigational and radio systems. After successful completion of its service trials the RAF ordered thirty-two aircraft under the designation Hunter FR.10 with deliveries to start during 1960.

The RAF assigned Hunter FR.10s to Nos 2 and 4 Squadrons which flew the aircraft as part of RAF Germany. Additionally, a number of aircraft were assigned to RAF fighter units in the Middle East, such as No 8 Squadron in Aden. The FR.10 remained in service until replaced by the McDonnell-Douglas F-4 Phantom.

Exports

Chile has operated six reconnaissance Hunters under the designation FR.71A from the late 1960s. These aircraft are operated as a single unit alongside a number of ex-RAF

During 1961, No 2 Squadron replaced the Swift with the Hunter FR.10. The Hunter FR.10 featured a three camera nose section containing a forward oblique camera, a right oblique camera and a left oblique camera. The Hunters served until 1971 when they were replaced by Phantom FGR.2s. (Arthur Drinkall collection)



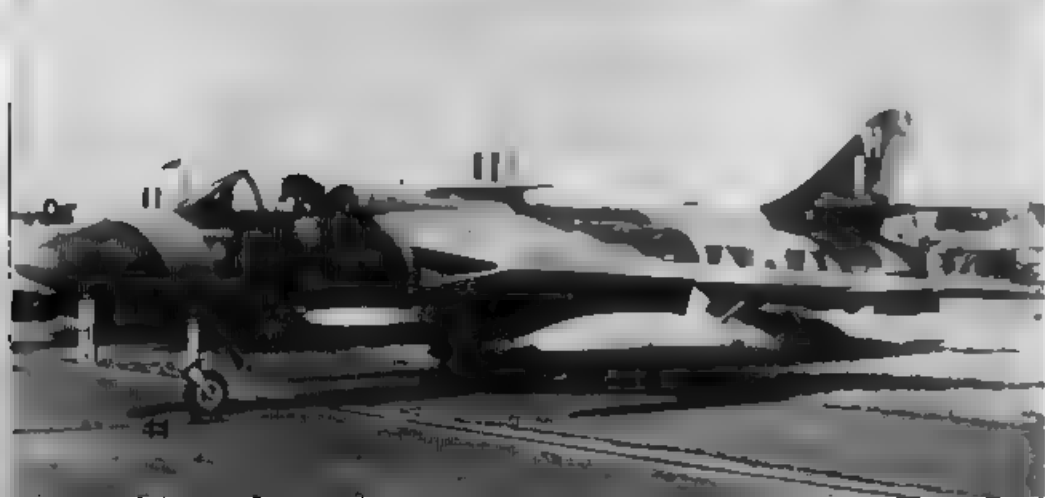
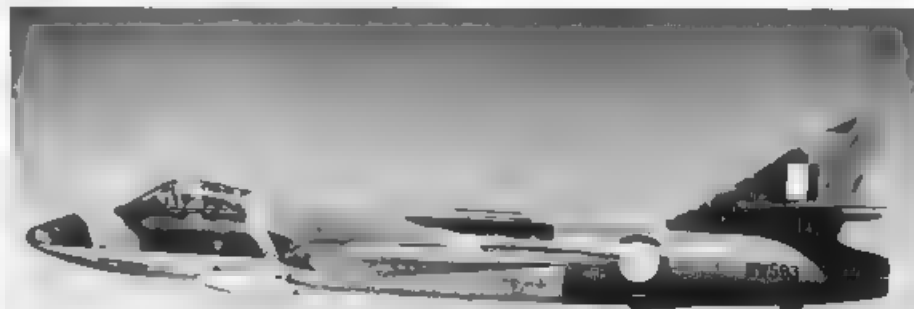
No.4 Squadron was re-equipped with Hunter FR.10s during 1961. The aircraft carried squadron markings on the nose and on either side of the fuselage roundel. The Hunters were replaced in service by Harrier GR.1s. (Arthur Drinkall collection)

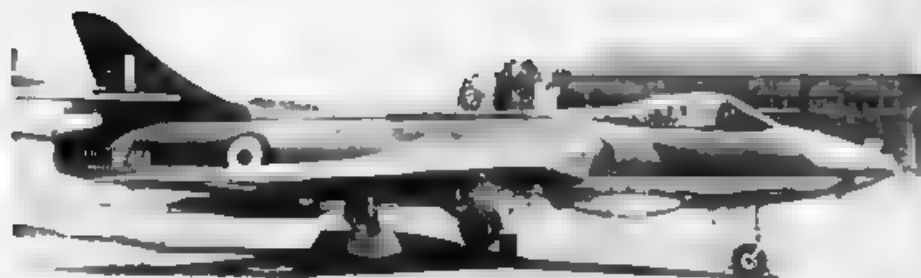
Canberra PR 9s

During 1971, Singapore received four Hunter F.6s which were brought up to FR.10 standard. These were designated as FR.74s in Republic of Singapore Air Force service. A follow-on order was placed for twenty-two FR.74Bs, which were delivered during 1972-73.

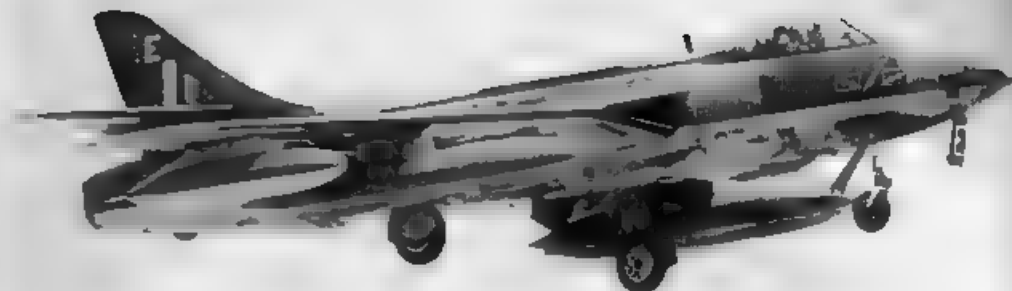
A number of Middle Eastern Air Forces ordered FR Hunters under larger orders for fighters and/or ground attack variants. Abu Dhabi received three FR.76As, Iraq purchased four FR.59Bs and Jordan operated a single FR.6 which was later passed to Oman. In Africa, Somalia operates one ex-Abu Dhabi FR.76A.

This Hunter FR.10 (WW593) was the first Hunter modified to the FR.10 standard for the RAF. The rear fuselage was painted in what is believed to be Red for the flight test program. (MAP)



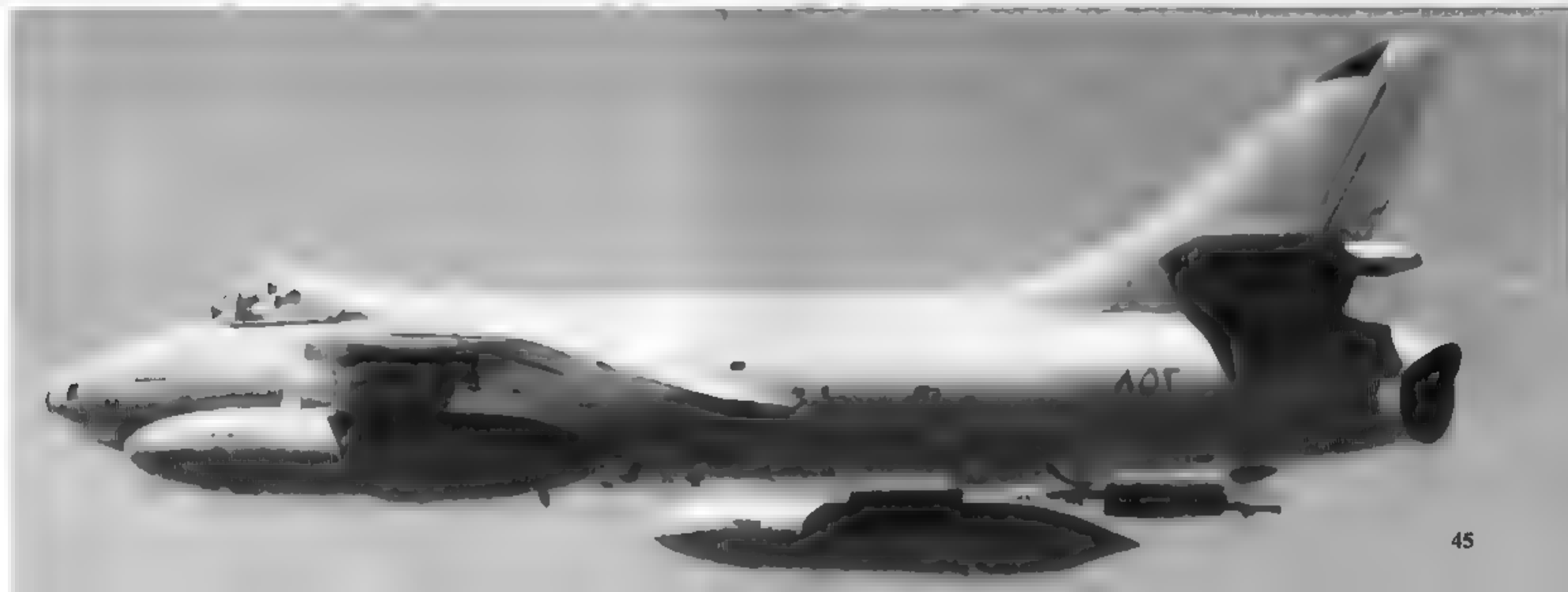


This Hunter FR 10 was converted from a Hunter F.6 airframe and although it carries RAF markings it never saw service with the RAF. It was later sold to Singapore under the designation Hunter FR.74B. (Arthur Drinkall collection)



A Hunter FR.10 of No 4 Squadron lands at an RAF base in Germany. The FR.10s served primarily in units assigned to RAF Germany as part of the NATO reconnaissance force.

No 8 Squadron, Sultan of Oman Air Force operates a number of various Hunter variants including this Hunter FR.73. Omani Hunters now carry a low-vis overall Gray camouflage and low-vis national markings on the fin and wings. (U.S. Navy via Nicholas J. Waters III)



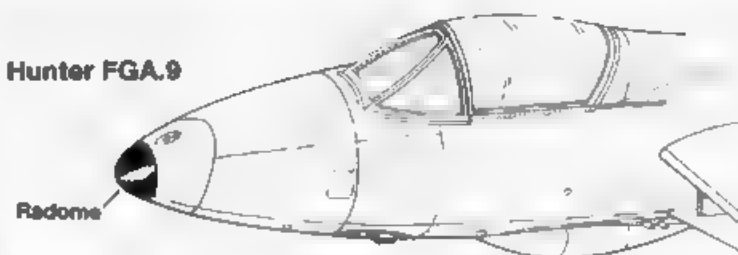


This Jordanian Air Force Hunter FR.10 reveals the arrangement of the forward oblique and left oblique cameras. The forward oblique camera has a sliding cover over the window to protect it. A number of these aircraft were later passed to the Sultan of Oman Air Force.

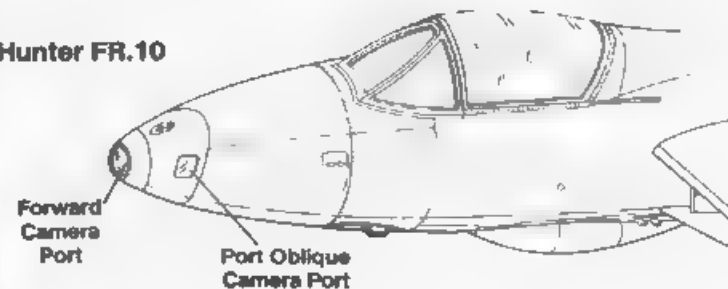
Nose Modifications

The Jordanian AF operated an unknown number of reconnaissance Hunters. These aircraft are believed to be modified from Hunter F.6 airframes with the same camera configuration as the Hunter FR.10. (BAa)

Hunter FGA.9



Hunter FR.10



Aerobatic Hunters

The Hunter has served with a number of different aerobatic teams from a number of different air forces. The British used aerobatic display teams for both entertainment at airshows and as a way of displaying the aircraft's capabilities to possible customers. The most famous British Hunter aerobatic team was the Black Arrows of No 111 Squadron which flew overall Gloss Black Hunters. Originally the team consisted of seven aircraft although this was later increased to nine. The team's first public display was during the 1957 SBAC show at Farnborough, where they performed a formation loop with nine aircraft in formation. The following year the team was increased to sixteen aircraft then, in an attempt to set a record, the Arrows looped a formation of some twenty-two aircraft. This record still stands. The Hunters continued to serve with No 111 Squadron until the unit converted to Lightnings in 1960.

A year after No 111 Squadron disbanded, another Hunter squadron formed a display team. No 92 Squadron formed a sixteen aircraft team known as the Blue Diamonds. This team flew displays with the Hunter until it converted to Lightnings during 1962. Two other RAF squadrons also flew Hunters in the aerobatic role. No 54 Squadron had a four aircraft team under the leadership of a USAF exchange pilot, known as the Black Knights and No 43 Squadron formed a four aircraft team under the name Fighting Cocks. These smaller teams flew their displays in standard fighter camouflage with no special markings.

During 1965, the Fleet Air Arm decided to form an official aerobatic team and the Hunter G.A.11s of No 738 Squadron were chosen to be the basis for a team known as the Rough Diamonds. The four aircraft team carried standard FAA colors except for the leader's aircraft which had a Dayglo band around the nose and along the spine. Based at RNAS Brawdy the team flew until they were disbanded during 1969.

During 1975, a number of the civilian pilots flying for the FRADU at Yeovilton decided to form an aerobatic team. The name chosen for the team was the Blue Herons, because of the naval name of the air base, HMS Heron. Originally the team only performed on the station's Air Day but, due to their success and subsequent requests for the team at other air shows they continued performing until disbanded at the end of the 1980 airshow season (for purely financial reasons).

The Swedish Air Force operated an aerobatic team known as the *Acro Hunters* which consisted of four Hunters from F18 wing at Tullinge. The team formed during 1957 and displayed until 1962 when it was reorganized as the *Acro Deltas* with SAAB Draken fighters.

Le Diables Reuges (Red Devils) of the Belgian Air Force have a long reputation as a quality aerobatic team. Between 1957 and 1965 the team flew five overall Red Hunter F.6s. These remained in service until replaced by Magisters during 1965.

The famous Swiss aerobatic team *La Patrouille Suisse* based at Duendorf fly six Hunter F.58s which are standard fighters except for smoke systems. All the aircraft are in standard Swiss camouflage with the team badge carried on the nose.

The Hunter was also flown as an aerobatic aircraft by The Thunderbolts of the Indian Air Force. After limited experience of operating aerobatic teams with a mixture of types the Indian Air Force decided to form a team along the lines of the British Red Arrows. Eight aircraft of No 20 Squadron were selected after the Air Force evaluated three types, the HAL Kiran trainer, Hunter and MiG 21. The Hunters made their first appearance on Republic Day in 1982. The aircraft are overall Royal Blue with White lightning flashes on the fuselage, wings and tail.



Nine Hunters of the Black Arrow perform at the 1957 Farnborough show. This was the first public display flown by the team which continued to fly demonstrations until the squadron converted to English Electric Lightnings during 1960. (RAF Museum/Charles E. Brown collection)



The Black Arrows of No 111 Squadron painted their Hunters overall Gloss Black. The team consisted of nine aircraft and they flew their first public display during the 1957 Farnborough show. (MAP)



The Blue Diamonds flew between twelve and eighteen Hunter F.6s. The aircraft were painted overall Blue with a White cheatline running the length of the fuselage and had a White surround applied to the roundels. (Arthur Drinkall collection)

A Hunter F.6 (XG190) of the Blue Diamonds parked on the flight line with the canopy covered by a protective cover. The White cheatline ran the length of the fuselage, tapering to the rear. Unlike most squadron Hunters the Blue Diamonds' aircraft had the fin flash aligned with the fin leading edge. (MAP)

A Blue Diamonds Hunter F.6 parked on the flight line ready for another display. The aircraft retains No 92 Squadron markings on the nose superimposed over the White cheatline. (Arthur Drinkall collection)





This Hunter GA.11 (VW374) was one of the No 738 Squadron aircraft used by the Rough Diamonds for aerobatic displays during the early 1960s. The team was based at Brawdy and the Hunters carried standard camouflage except for the Pegasus badge on the nose. (Arthur Drinkall collection)

The last full strength aerobatic team still flying the Hunter on a regular basis is the Swiss Air Force *Patrouille Suisse*. The aircraft are standard Hunter fighters except for their smoke systems. (Author)

The Red Devils of the Belgian Air Force flew five overall Red Hunter F.6s with a Yellow chestline running the length of the fuselage. The Hunter team was active between 1957 and 1965 when the aircraft were replaced by Magisters. (MAP)



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This Swiss Air Force Hunter F.35 was assigned to No 9 Staffel and carried a special color scheme for the service's 75th anniversary. Swiss Hunters are armed with Maverick anti-armor missiles.

A Hunter T.75A of No 140 Squadron, Republic of Singapore Air Force. Singapore operates nine two seat Hunters in the combat crew training role.

